The Orchadian

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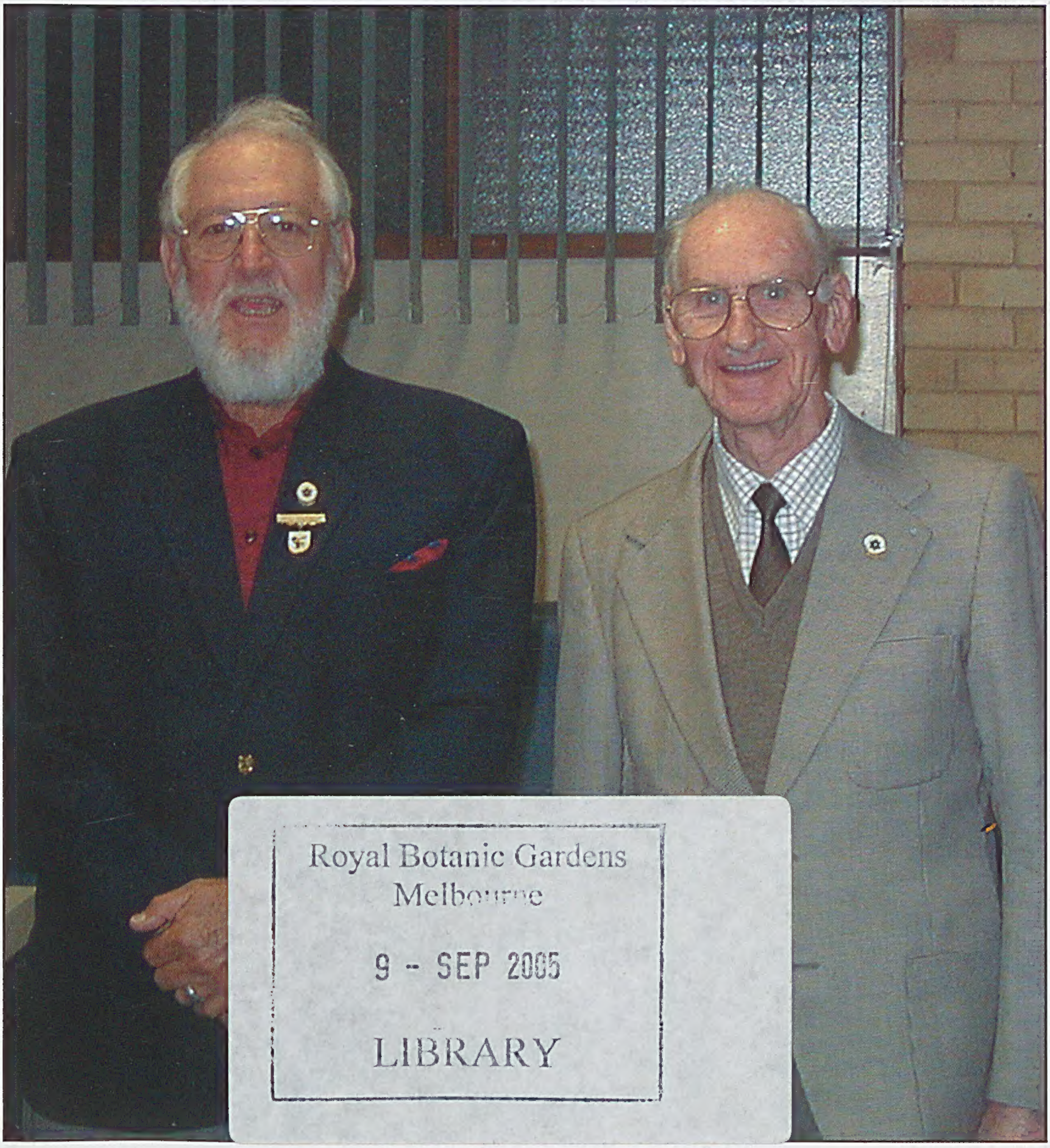

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Murray J. Corrigan and Walter T. Upton
Foundation and Life Members of
The Australasian Native Orchid Society Inc.

September 2004
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The Orchadian

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8th AUSTRALASIAN NATIVE ORCHID CONFERENCE
Pterostylis saxicola
CAMPBELLTOWN
2004

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email us at karen.winch@bigpond.com.au

Speakers

Speaker	**Subject**
James Indsto	Diuris Pollination
John Woolf	Sarcochilus Breeding
Geoff Stocker	Papua New Guinea Orchids
Kevin Western	Roles for tissue culture enthusiasts and hobbyists in modern orchid culture
Peter McCaulay	Native Orchid Conservation Through the use of Aseptic & Asymbiotic Techniques
Ray Clement	Introduction to Australian Native Orchids
Gary Yong Gee	Taxonomy and the orchid grower
Phil Spence	Australasian Hybrids with a Future
Michael Harrison	Twig Epiphytes
Ed De Vogel	Ecology of New Guinea Orchids, Demonstration of PNG cd-rom
Andrew Dilley	Orchids and rescue program of Victoria
Peter Tonelli	Orchids in Isolation
Ron Parsons	An American view on Australian Orchids Oxyglossum orchids of PNG

Inaugural

Hermon Slade Trophy (Best Australasian Native Species)
Hermon Slade Trophy (Best Australasian Native Hybrid)

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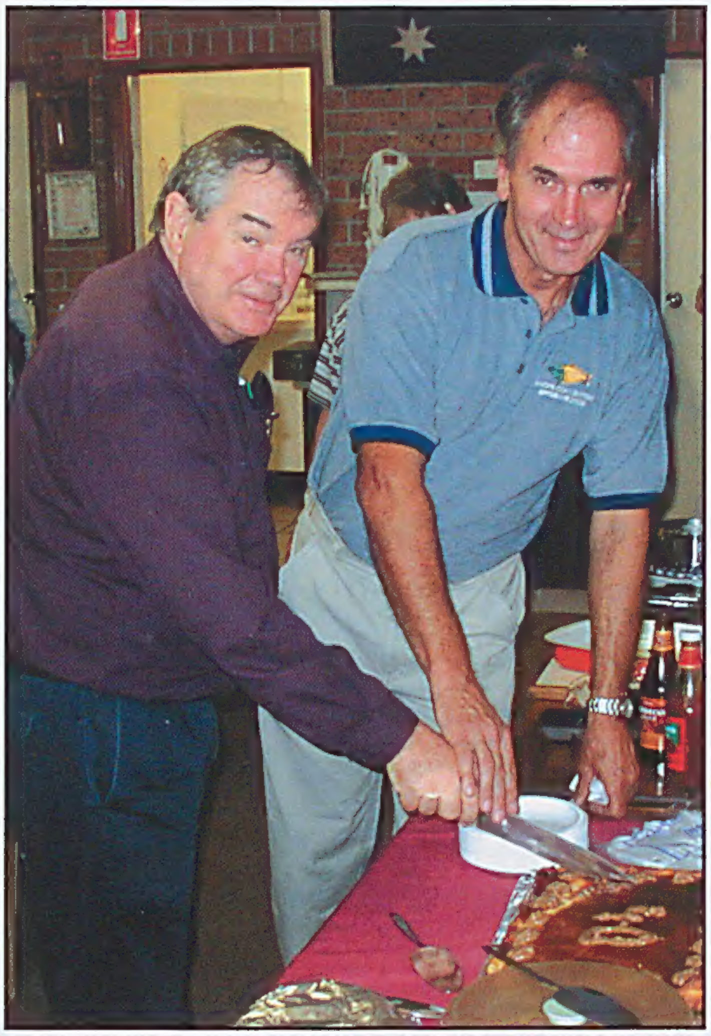
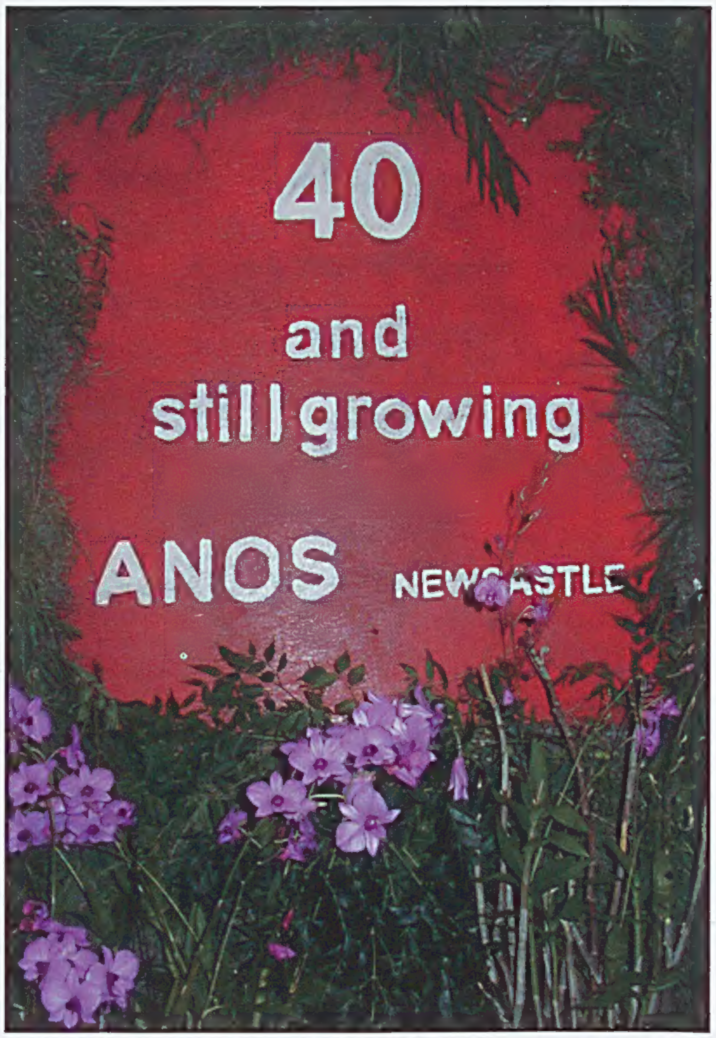


Graham Slater and Tony Clarke cut the cake at the Newcastle Group's 40th birthday.

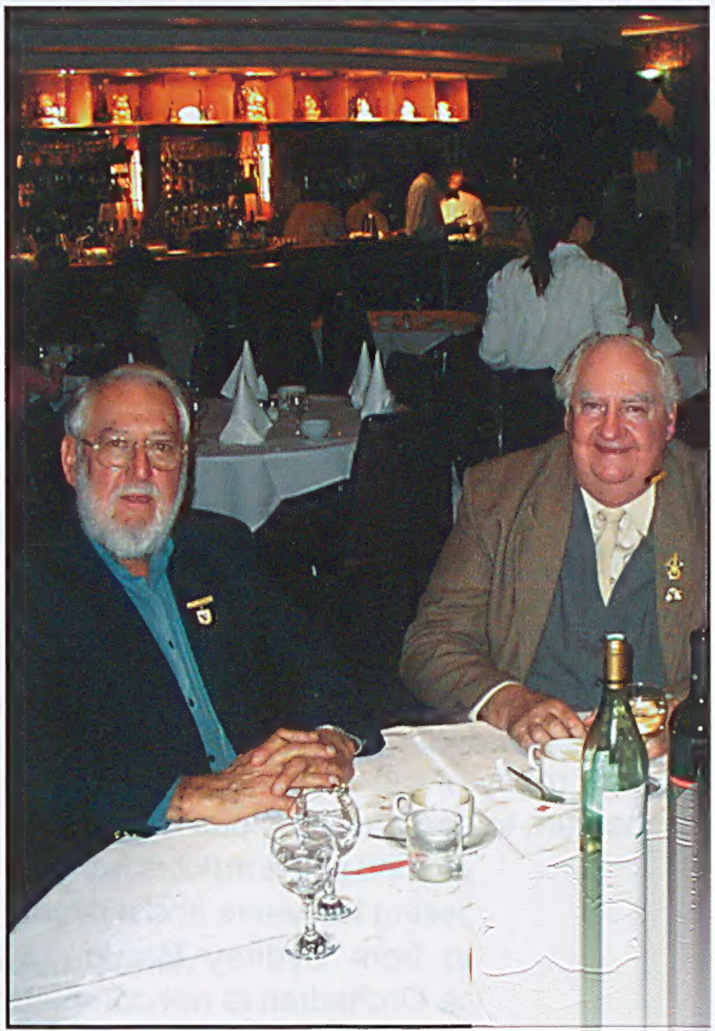


40th Birthday sign displayed at Newcastle Group. The sign says it all!

Michael Harrison, Patron of Sydney Group, cuts the cake at Sydney Group's 40th Birthday celebrations.

Murray J. Corrigan, Graham Slater, Walter T. Upton and Michael Harrison at Sydney Group's 40th.

Warringah Group President, Roslyn Capell and Graham Slater at Warringah Group's 40th.



Murray J. Corrigan and Barry Collins, at Warringah Group's 40th. Photos P Eygelshoven

Editorial

Here is an issue that is a little different. As many would know this year three ANOS Groups celebrated their 40th Anniversary. Newcastle, as they did forty years ago, celebrated their 40th birthday three days before Sydney Group. Forty years ago Bill Murdoch opened the first ANOS Group, Hunter Valley Group, one week before Sydney Group. Newcastle celebrated with a wonderful barbeque at their April meeting, Graham Slater, Irene Bodell and myself drove up to help celebrate. Then on the Saturday night, three nights later, we celebrated at Sydney Groups 40th, this time with a roast dinner prepared and served by a chef. This dinner was more formal with Walter T. Upton and Murray J. Corrigan giving speeches on the past forty years of Sydney Group. Warringah Group chose a Chinese Banquet to celebrate their 40th birthday. This was held at the Glenrose Chinese Restaurant.

In this issue Murray Corrigan reminisces over the past forty years of ANOS, why and where it all started. Murray, as many would know, was the first Editor for The Orchadian, holding the position for some fifteen years, at a time when there were no computers. Although The Orchadian looks a much harder and fancier journal these days, it is only possible thanks to computers, Murray had to hand type each issue and then as you will read in his article, Council members put it together and posted it. Murray has helped and guided me in my time as Editor for which I am grateful. I asked Murray to do this history of ANOS for this issue as it will be the one for the Conference and in the year and time of the 40th Anniversary of some ANOS Groups. I have looked back through many of the earlier editions of The Orchadian, to see how previous dates were celebrated only to find some articles from Bill Murdoch, discussing ten years and a twenty first celebration from Sydney Group. My collection of The Orchadian is not complete so there may be others. Murray's article is worth reading for both the newer ANOS member and for those older members, as a reminder of what is now a truly great society thanks to some keen and idealistic men.

We also have in this issue Dick Thomson's paper on "Deflasking temperate deciduous terrestrial orchids" which will help many to determine when is the best time and the best practice for deflasking terrestrials. We will also read about a new species from David L Jones and the many names of *Malaxis ophrydis* by Bill Lavarack, an update on *Habenaria harroldii* from Alan E. Logan, and finally a paper from Peter Presland which was his paper in the recent Judging Course held in New South Wales.

I have enjoyed this issue greatly and I hope you will too.

Peter.

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Annual General Meeting of ANOS Inc.

The 41st Annual General Meeting of ANOS Inc will be held at the
MACLIN LODGE MOTEL,
38 Queen Street Campbelltown on
SUNDAY 19th September, 2004
in the Dining Room at 10am.

Any Group or individual member who has matters to be included on the agenda, along with any nominations for positions on Council, should have these with the Secretary no latter than one week prior to the AGM. Send these items to: The Secretary, ANOS Inc.
PO Box 318
Willoughby, 2068

The following suggested amendments or modification are for the ANOS Inc constitution.

ANOS Inc now caters for ANOS (un-incorporated) groups and group membership; therefor some minor modifications have to be made within our constitution to cover these groups within the state of New South Wales. The draft changes to ANOS Rules were presented at the advisory council meeting at ANOS Inc 2003 AGM for perusal.

The other amendments will bring our constitution up to date, such as Rule 30. THE ORCHADIAN

I am sure most of the changes are self-explanatory and are long overdue.

A Model Group Constitution is also presented, and this is to be attached with our constitution as APPENDIX 2.
This 'Model' should be adopted by non incorporated groups. Each non-incorporated group can then (if required) add their own by-laws.

ANOS President. Graham Slater

SUGGESTED CHANGES TO THE A.N.O.S. Inc. RULES.

RULE 2 INTERPRETATION.

ADD: "Group". means a number of members holding regular meetings, responsible for their own administration and finance as provided in Rule 31 and Appendix 2., domiciled in N.S.W. and not currently incorporated under the Associations Incorporation Act 1984, as amended.

RULE 4. MEMBERSHIP.

(3). **Classes of Members.**
(a). **Insert** after "Ordinary" the words "Group, Family".
(7). **Register of Members.**
(a). **Insert** after "specifying" the words "the class,"

RULE 11. Treasurer.

(1).

(a). **Insert** after "to ensure that" the words "excepting as provided in Appendix 2. Rule 2. E."

The following words were inadvertently omitted from the last reprint of the Rules.

"(b). correct books and accounts are kept showing the financial affairs of the Society including full details of all receipts and expenditures connected with the activities of the Society.'

RULE 19. CONDUCT OF MEETINGS OF THE SOCIETY.

(1). **Insert** between "the Society" and "the President" the words "except as provided in Appendix 2. Rule 2. A, B, & C."

RULE 21 FUNDS - SOURCE.

(2). after "account" **Add** the words "except as provided in Appendix 2. Rule 2. E."

RULE 22. FUNDS - MANAGEMENT.

(2). after "by Council" **Add** the words "except as provided in Appendix 2. Rule 2.E.".

(3). after "funds of the Society" **Add** the words "except as provided in Appendix 2. Rule 2. E.".

ADD:-

RULE 30. THE ORCHADIAN.

(1). As provided in Rule 3. (4).the Society shall publish a quarterly journal titled "The Orchadian".

(2). The Orchadian Mailing List shall comprise; the Patron, Ordinary Members, Life Members, Exchange Publications as approved from time to time by Council and the mandated free subscriptions to the Sydney University Badham Library and the A.N.L. Canberra.

(3). Council shall register the title "The Orchadian" as a Trade Mark with the relevant Government Authority and ensure that ownership of same shall remain with A.N.O.S.

ADD:-

RULE 31. GROUPS.

(1). Groups shall be a number of ANOS Inc. Members, holding regular meetings, adopting the ANOS Inc. Group Rules as set out in Appendix 2. and a suitable name in the following format, " The Australasian Native Orchid Society Inc. AAAA Group" where "AAAA" should preferably be a local or regional name.

(2). Council may delegate authority to Officers of Groups to enter into contracts or agreements for hall hire and other transactions connected with Meetings, Shows and other events organised by their Groups, and to open and operate bank accounts in the name of the Group.

ADD.

APPENDIX 2. NOTE: This version approved at AGM on 2nd August 2003 for further action by Council.

APPENDIX 2 (DRAFT)
THE AUSTRALASIAN NATIVE ORCHID SOCIETY INCORPORATED.
AAAA GROUP.

GROUP RULES

1. NAME

The Group shall be called 'The Australasian Native Orchid Society Incorporated, AAAA Group' (hereinafter called 'The Group') and is incorporated as a group of the Australasian Native Orchid Society Inc, (hereinafter called ANOS) under ANOS Rules.

2. RULES.

The Group is bound by the Rules of ANOS. The term ANOS In ANOS Rules shall be deemed to include the Group.

A. COMMITTEE.

The Committee of Management of the Group:-

i. shall control and manage the affairs of the Group

ii. may exercise all such functions as may be exercised by the Group, other than those functions that are required by these Group Rules to be exercised by a General Meeting of the members of the Group.

iii. has the power to perform all such acts and do all such things as appear to the Committee to be necessary or desirable for the proper management of the affairs of the Group.

iv. a quorum for a meeting of the Committee shall comprise a number equal to the next whole number above 50 per cent of the Committee for the time being.

B. MEMBERSHIP OF THE COMMITTEE.

(a). The Committee shall comprise -

i. the four Office-Bearers of the Group

ii. an odd number of ordinary members, each of whom shall be elected at the

Annual General Meeting of the Group

iii. the Office-Bearers shall be- Group President
Vice-President
Treasurer
Secretary

(b). Each member of the Committee shall, subject to these Group Rules, hold office until the conclusion of the Annual General Meeting following the date of the member's election but is eligible for re-election.

(c). In the event of a casual vacancy occurring in the membership of the Committee, the Committee may appoint a member of the Group to fill the vacancy, and the member so appointed shall hold office subject to these Rules until the conclusion of the Annual General Meeting following the date of appointment.

C. ELECTION OF MEMBERS OF THE COMMITTEE.

i. Nomination of a candidate for election as an Office-Bearer, or as an ordinary member of the Committee shall be at the Annual General Meeting by a financial member of the Group and seconded by a financial member of the Group

ii. If the number of nominations received exceeds the number of vacancies to be filled, a ballot shall be held, conducted at the Annual General Meeting

iii. The election of the Committee shall be conducted by an electoral officer appointed by the Annual General Meeting.

D. FEES.

In addition to Group Membership subscriptions payable to ANOS which shall be collected by the Group and remitted to the ANOS Treasurer, a membership fee shall be levied by the Group on all other classes of members of the Group except as provided in Rule G on 1st July of each year; the amount of such fee shall be determined by the Committee.

The Financial year of the Group shall be from 1st July to 30th June the following year.

E. FINANCE.

(a). The Treasurer shall be responsible for the collection of all monies due to the Group and the banking of same in the Group's Bank Account.

(b). The Treasurer shall keep correct books and accounts showing the financial affairs of the Group. including full details of all receipts and expenditures connected with the activities of the Group.

(c). At the end of the Financial Year and after approval of the Group's Financial Statement at the Group's Annual General Meeting. The Treasurer shall make a report on the Group's Finances to the ANOS Treasurer.

F. DISBANDING OF THE GROUP

In the event of the Group being dissolved, all assets and properties of the Group shall be transferred to ANOS.

G. HONORARY/LIFE MEMBERSHIP

Election as Honorary Member shall be only by the unanimous vote of members present at the meeting after advice has appeared on the notice of meeting. Voting shall be by a show of hands. An Honorary Membership shall carry all the rights and obligations of ordinary Group Membership except the payment of annual membership fees.

H. CLASSIFICATION OF MEMBERS

The following classification of members shall apply;

i. Full
ii. Family
iii. Junior (under 18 years)
iv. Honorary.

I. CONDUCT OF MEETINGS

i. At any meeting of the Group the President, or in his absence, the Vice President, shall preside. If the President and the Vice-President is absent or unwilling to act, the members present shall elect a member to preside at the meeting.

ii. The constitution of a quorum for transaction of business at any meeting of the Group shall be 20% of the financial membership of the Group.

iii. If a quorum is not present, no official busines may be transacted.

J. ANNUAL GENERAL MEETING

The Annual General Meeting shall be within two months of the end of the financial year i.e. August.

NOTE: This version approved at AGM 2nd August 2003 for further action by Council.

Deflasking temperate deciduous terrestrial orchids.

Dick Thomson
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Templestowe Heights
Victoria 3107
03 9850 9867
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The techniques and the strategies below have been prepared using ideas from, and discussion with terrestrial orchid growers in Victoria, South Australia and southern New South Wales.

Introduction.

The successful cultivation of deflasked seedlings of some terrestrial orchid species is proving very difficult to achieve. With some species the success rate to mature plants is close to 100%, but it drops to very low levels for other species. Generally, the harder the orchid is to maintain in cultivation the more challenging is successful after-care. Currently considerable development and experimentation is being undertaken on deflasking techniques, time of the year, potting media, and caring for the deflasked orchids.

The discussion below attempts to outline the methods being used and to raise issues that, with discussion and evolution, will lead to better methods and greater success.

Why is deflasking and subsequent successful growing difficult?

- The need for many or perhaps all terrestrial orchids to develop an association with appropriate mycorrhiza fungi.
- The orchid only having one leaf or set of leaves in a growing season and these must adjust to the new conditions and keep growing.
- The susceptibility of the leaves of some genera to bacterial and fungal infection.
- The probability of damaging plant parts during the deflasking process.
- The plants ability to use light to photosynthesize may have been reduced by some of the chemicals in the flasking media and time is needed for the plant to adjust.
- The high level of care required while the orchid adjusts to its changed environment.
- balance of moisture in the potting media and in the air above the pots.
- The need for good air movement around the plants without drying them out.
- The damage that can be inflicted upon small plants by predators such as fungus gnat larvae, fungi and bacteria.

When to deflask.

There are several opportune times in the growth cycle to deflask temperate terrestrial orchids. Each has its potential risks and advantages.

1. Before tubers have formed.
a) At the beginning of the growing season
b) During the growing season
c) Towards the end of the growing season
2. After tubers have formed.
a) When the plants are dormant
b) At the beginning of the growing season
c) During the growing season
d) Towards the end of the growing season

3. If the flask becomes contaminated or the plants start to loose their vigour.

Readiness for deflasking.

Prior to sowing seed there should be consideration of growth rates enabling the orchids to be deflasked at the optimum growth stage and the best climatic conditions.

1. Before tubers have formed.

If the plants are deflasked before tubers have formed the plants seem to need a higher level of care during the first growing season. The critical factors that need to be closely managed are light, temperature, humidity, air circulation plus moisture and oxygen level in the potting media. A fog environment with air movement within may be required to enable a high percentage of the plants to survive.

Small plants appear to be more susceptible to dehydration, fungal damage and fungal gnat larvae predation.

a) At the beginning of the growing season.

The plant is in vigorous growth and there is only a small amount of underground components and leaf tissue to adjust to the post flask environment.

There is a small risk that the underground components may be damaged during handling. Although, as the underground parts are relatively small at this stage of the growth cycle, the risk of damage is less than later in the season

This timing gives the plant a complete season to grow a good sized tuber.

The environment is not too cold, reducing the probability of fungal damage and the soil remaining too wet.

Experience is suggesting that this may be the best time to deflask.

b) During the growing season.

It is possible to deflask the orchids at other times during the growing season.

There is a higher risk that the tuber dropper between the plant and the developing tuber may be damaged.

Extra care will be needed after deflasking as there is more leaf tissue to adjust to life outside the flask.

There seems to be a much lower success rate if deflasking is undertaken in the cold, low light, damp winter period. Growth seems to be very slow and more plants suffer infection.

c) Towards the end of the growing season.

Provided the plants have formed good sized tubers it may be worth considering deflasking towards the end of the growing season.

There has been good success when deflasking in the period between mid August and mid September. Even for plants whose seed were sown at the beginning of the year and may be just starting to develop tubers.

The plants will then continue to grow until the end of the season when dormancy will set in.

The tubers will then remain in the potting media until ready to grow next season.

The potential disadvantages are that there is a lot of leaf tissue to adjust to post flask life and the tuber may be small and could dehydrate during dormancy.

Again the underground plant parts could be damaged. But if damaged it is not as critical as the tuber has partially developed.

2. After the tubers have formed.

Usually the plants are larger and more robust giving them a greater chance to survive the rigours of deflasking and aftercare.

It will be necessary to ensure that the flask media has sufficient nutrients to allow the plants to grow for this longer period and to observe that the flask media does not change its pH (developing a brownish hue) causing the plant growth to become retarded or the plant to die.

Some species of *Pterostylidinae* may need to be deflasked earlier as they have been reluctant to grow a tuber while in the flask. *Pterostylis foliata* and *Stamnorchis recurva* have exhibited this trait. Successful tuber formation for these orchids has been achieved by deflasking at the beginning of the growing season.

Some *Thelymitra* tubers, where the plants have gone dormant, do not seem to grow if they are left in the flask past late autumn.

By holding the plants in the flasks for this longer period there is a greater risk of the plants running out of nutrient, contaminants entering the flask or the plants dying.

a) When the plants are dormant.

Not all plants will go dormant in the flask. For those that have entered dormancy it is possible to deflask during their dormancy and treat as you do other dormant tubers, i.e. pot up, water and recommence watering at the recommended time for that species.

If there is a coating of flask media on the tuber this may be attacked by fungi leading to tuber loss.

The tubers could dehydrate over the dormant period.

b) At the beginning of the growing season.

Again, the beginning of the orchid's growing season seems to give one of the highest probabilities of the orchids growing successfully with the advantages and risks being similar to those outlined in earlier section 1a.

The tuber that has formed in the flask will have begun to grow a new shoot and be in vigorous growth.

c) During the growing season.

Again, the risks and advantages are similar to deflasking before the tuber has formed as set out in 1b.

d) Towards the end of the growing season.

To hold the plants in the flask for this length of time (eighteen months to two years) considerably increases the risk of death of the plants. If the media starts to discolour then deflask immediately. Otherwise the risk and advantages are similar to a year earlier.

3. Contaminated flasks or the plants start to loose there vigour.

If the flasks become contaminated, or the plants start to loose vigour or the leaves begin to lighten in colour or dry off from the tip or develop a glassy look, deflask immediately.

If this happens in the hotter months and the plants are not dormant, the deflasked plants should be grown in an environment that makes them assume it is still their growing period. Ideally, in a constant temperature growing cabinet. If the plants have developed tubers they can be allowed to go into dormancy.

Looking after the flask prior to deflasking.

Deflasking and subsequent culture seems to have a much higher success rate when the orchids within the flask look healthy and are growing vigorously.

The flask should be kept at a temperature that does not exceed about 18°C and with as little temperature fluctuation as possible. For example in a well lit area such as under a fluorescent light or on a window sill without direct sun. Never place the flask in direct sunlight. The flask may get hot and the plants die. Also the resultant temperature fluctuations increase the likelihood of fungi or bacteria being drawn into the flask.

If the flask becomes contaminated or the plants show any sign of loosing their vigour it will need to be deflasked immediately, otherwise deflask at the chosen time.

Better success has been achieved by placing the flask into the position that the deflasked plants will be placed. This may be done up to a month before planned deflasking. If this is in the orchid house there are risks to be managed. The flask could receive too much light or become hot and the plants damaged. The flasks may be placed into a zip-lock plastic bag to reduce the risk of contamination.

Future consideration.

I understand that research staff at Kings Park in Western Australia, are having greater success when an intermediary step, between flask and pot, is used for symbiotically grown orchids. It is my understanding that their method is to place the flask media into a flask, place pasteurized sand onto that media and replate the plants into the sand. After a further period of growth the lid is opened for some weeks before transferring the plants into pots. Is there potential to adapt this technique to give improved results for asymbiotically grown plants?

How to deflask.

Cautions.

- Plants are brittle at the join of the leaves and the plant base and are likely to break unless handled carefully.
- Remove as much media as possible from the roots and tubers because once deflasked, fungi and bacteria may infect the flask media that remains around the plants and may then destroy the plant. If it is not possible to remove all of the media, then watch for fungal or bacteria infection and treat immediately. But a word of caution as some fungicides may harm the plant and may kill any orchid mycorrhiza fungi that are present.
- It seems best to separate the plants and plant singly, with many in the one pot. However for plants that cannot be separated without breaking or damaging them, plant them in small groups.
- Be careful handling the plant parts: leaves, collars, roots with their fine hairs, tuber droppers and, if present, the tuber. Their proper functioning enables the plant to grow and form a tuber.
- Once potted, try not to water the leaves. Water can settle in the leaf axil allowing infection to set in. This can be overcome by having a breeze to dry off any water.

The orchid seedlings seem to appreciate:

- Handled gently and usually at the junction of the leaf and the dropper.
- Handled an absolute minimum.
- Deflasked in autumn.
- Deflasked when a new shoot is beginning to grow from the tuber.
- Deflasked when there is going to be three or four days of cool, damp weather. But not cold, wet weather.
- A potting media that has been steam pasteurized.
- If fungi dependant, having their mycorrhizal fungi added to the potting media or being placed around parent plants or having some soil from close to the parent plant, added to the media.

1. Work area.

Choose a clean bench in a cool, humid and well lit work area. All tools should be clean. Clean the bench with cleaning solutions such as dilute household bleach or 70% Ethanol (methylated spirits) with 30% water. A fresh sheet of newspaper on the bench for each flask is a useful strategy.

2. Removing the flask contents.

Several strategies are being used:

i) If the plant is yet to develop significant underground parts it is possible, with a dibbler [such as a sharpened chop stick], to lift individual plants from the media and place them straight into the potting media.

ii) Open the flask. Carefully loosen the media within the flask, perhaps breaking it into pieces to allow easy removal from the flask. Careful probing with a dibbler will assist this process. Take care not to damage plant parts, especially any lateral roots.

iii) Open the flask, add a shallow layer of pasteurized water to the flask and keep the flask in its growing area for up to a week. It is believed that this allows the plant cells to adjust to the open environment, giving a stronger, more robust plant.

iv) Open the flask, fill it with clean water and allow to stand for a couple of hours. It is believed the soaking in water reduces the risk of dehydration.

3. Separating the plants from the media.

Be careful not to damage plants during this process. Especially long leaves and tubers protruding from the bottom of the media.

The flask contents are carefully tipped onto a bench or into a dish of water.

Remove most of the media from the plants. A dibbler is a useful tool.

Then remove as much of the remaining media as possible, if necessary by using a brush or running water. Sufficient water pressure is used to enable the media to be removed while minimizing damage to the leaves and fine hairs on the orchid roots. Placing the plants in a kitchen sieve reduces the risk of them being broken as they are washed. It is usually not possible to remove all the media.

During the cleaning process separate the plants. Sometimes it is necessary to leave plants in small clumps.
Some growers have found it beneficial to place the cleaned plants on some dry paper towel in an ice-cream container and to let them dry before planting. Others have found this leads to loss of the plants.

4. Placing the plants into the potting media.

It seems to assist with later plant care to plant similar size plants in the same pot.
a) Plants seem to grow better if they are planted around the edge of the pot. This is believed to be because the outer portion of the media remains dryer but humidity remains within the media. Also it is easier to hold the plants in position at the edge of the pot and add media around them, reducing the risk of damage to the plant.
b) The dibbler may be used to make holes in the potting media with individual orchids planted in the holes.
c) Fill the pot to within 3 cm of the top with potting media. Place the pot at an angle and put a wall of potting mix across the pot. Place plants against this wall. Place a layer of potting media against the plants etc until the pot is full.
The above techniques will need to be adjusted for plants with long tubers or long lateral roots.

After potting, give the plants a gentle watering to settle down the potting media and the plants. If the leaves are watered be sure that they are dry by evening.

To reduce the risk of dehydration, some growers have sprayed the plant leaves with a dehydrant inhibitor, such as Envy but there has not been obvious benefit to the plant.
Potted plants seem to grow better when the pots are placed together in a foam box that has been cut down to the level of the pot.

Using a fungicide.

Some growers spray the plants and media surface with a fungicide. This is thought to give protection, for a few days, against fungal infection.
It would not be usual to spray with a fungicide if the orchid's mycorrhizal fungi are present in the orchid or the potting media.

Potting media.

The ingredients of a successful terrestrial orchid seedling potting media seem to be:

- Nutrient for the plant and any fungi that builds an association with the plant.
- Hold moisture and remain damp but not wet.
- Allow air movement through the media.
- Support the plant from becoming loose or from falling over.
- Protect the tuber from dehydration during dormancy.
- Allow leaves sitting on the media surface to dry.
- Steam pasteurization to remove potentially harmful bacteria and fungi and to kill insect eggs and larvae.

If you are able to obtain the appropriate mycorrhiza fungi for the orchid it is suggested that this should be added to the pasteurized potting media about a week before the seedlings are deflasked.

While further work is being undertaken on the optimum potting media for deflasked plants, success is being had with several combinations of potting materials. It may be that success for one combination may depend on the environment in which the pot is placed and the watering regime that follows.

- A mixture of 50 to 30% coarse horticultural Perlite and 50 to 70% commercial, pine based, potting mix. The potting media components should be damp when used. It has been suggested that this media may be more effective if the Perlite size is reduced and the fines taken out of the potting mix. Trials of this change are yet to be undertaken.
- A mixture of one third coarse horticultural Perlite, one third 2 to 4 mm gravel and one third commercial, pine based, potting media. Again finer Perlite

may give improved results.

- Live sphagnum moss. The moss is used relatively dry. Squeeze a handful and a little moisture should come out. To make it easier to handle, fill the pot to within 3 cm of the top with the packed down moss. Then use moss that has been chopped into lengths approximately 3 cm long to fill the top of the pot. Pack the moss firmly but not hard. Some growers are having excellent success with sphagnum moss while others find it very difficult to use successfully. Some of the growers who are successful remove the plants from the sphagnum moss after about a month and plant them into their normal potting media
- A mix of 2 parts course sand, [2 to 4 mm], 1 part rich loam, 1 part buzzer chips [not treated timber], or hard, broken up native leaf litter, 1 part leaf mould from native trees and 1 dessertspoon of Blood and Bone per 9 litres of mix. For *Caledeniinae* and *Oligochaetochilus* an extra serve of coarse sand is added. The media is explained *in Cultivation of Australian Native Orchids* - Richards, Wootton *and* Datodi, page 50.
- Chopped sphagnum moss mixed with equal portions of 2 to 4 mm polystyrene.
- Casuarina mulch. The leaves of *Casuarina* trees that have been broken up and allowed to compost with the leaf components are still recognizable. This gives a light open mix that drains well.
- Fine, up to 2mm, silica sand.
- Using a 'parent pot' [a pot with a mature plant of the same species growing in it] to plant the deflasked orchids into, can be successful. It is recommended that you move the pot to a position more favourable for deflasked seedlings.

With some of the potting media it is necessary to place shade cloth or plastic fly wire in the bottom of the pot to stop the media falling though the drainage holes.

Chopped *Casuarina* needles or gravel can be placed on top of the media around the potted plants. This reduces the risk of plant disturbance during watering, allows air under leaves of rosettes and reduces evaporation when the weather warms.

One grower is having improved success by making up the pots of media about two months before use and placing them in position in the orchid house. This is allowing the media to acclimatize and perhaps become infected with appropriate fungi

Matching the orchid seedling to its fungi.

The harder to grow seedlings, such as *Caladenia*, appear to have a better chance of survival if they are able to link up with an appropriate fungus. At present these fungi are not available. Thus growers have been using other techniques to increase the probability of this matching.

For example placing the deflasked seedlings in the pot with mature plants.

You may wish to consider introducing some potting media, from a parent pot of the same species, into the seedlings potting media. The added material would best be placed near the top of the seedling pot. If you are taking some potting material from parent plants, then add it to the media after the steam pasteurization process.

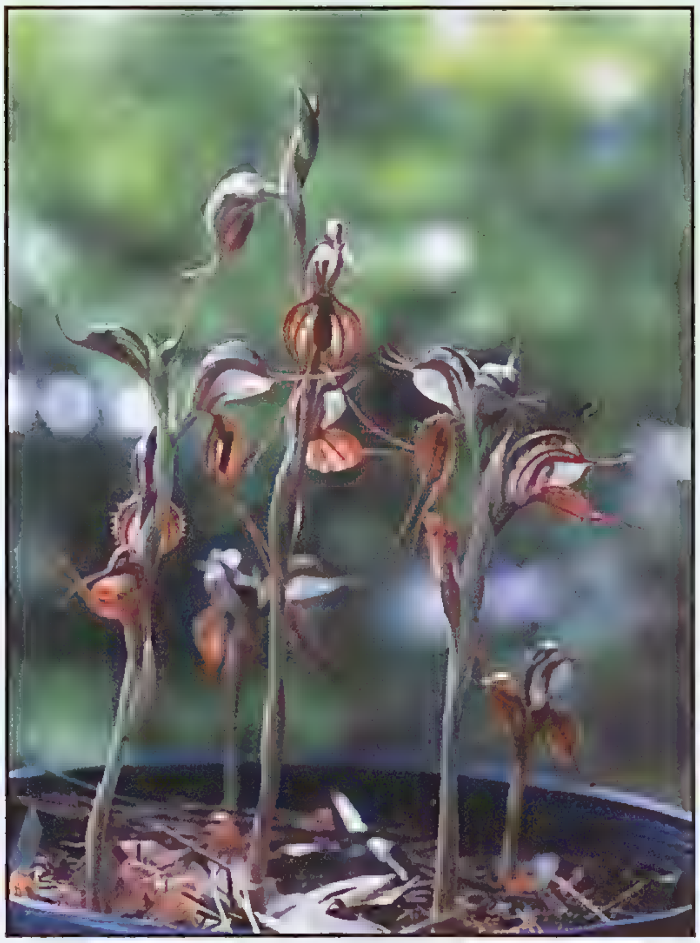
If you do not have the same plant, then try using media from a pot of a closely related plant. The relationships shown by Hopper and Brown in *Nuytsia* 14 (1/2) 2001 and Jones et al in *The Orchadian* Vol. 13, No. 9 September 2001 have proven useful.

Pasteurization.

Better seedling growth seems to occur if the potting media components [except sphagnum moss] are steam pasteurized before use. For the hobbyist, this can be achieved by placing the damp media components in the top half of a steamer saucepan, and then gently boiling water in the base saucepan for at least forty five minutes, so that steam rises through the media. This has the effect of destroying pathogens, seeds and insect larvae which may be harmful to young plants.

Caladenia seedlings. Photo R Thomson

Thelymitra seedligs growing in a polystyrene tray seem to do better. Photo R Thomson



Pterostylis petrosa grown from seed. Well worth the effort. Photo L Peggie

Pots.

Many well draining pots are suitable. A pot should be large enough to allow you to maintain a consistent moisture level in the potting media and to give enough space for in-soil development. A 90 mm diameter pot, that is 90 mm deep, seems to be a minimum size, while a 90 mm pot that is 115 to 125 mm deep is a better minimum option for genera with longer tubers or roots such as *Diuris*, *Thelymitra*, *Calochilus* and *Lyperanthus*.

It is best to avoid pots that have a step reduced diameter down the side. They seem to trap moisture on the ledge of the step down. Some growers like to use a pot with drainage holes around the side at the bottom, rather than holes in the bottom which is what most growers use.

Some experimentation is being undertaken with smaller pots enabling a single orchid to be planted into each pot. This single orchid can then, later be placed into the ground, or a larger pot with its potting media intact. With this technique, for the plants to be grown successfully, it seems that the pots need to be grouped together in carefully managed environmental conditions.

Fertilizing.

You may wish to consider adding a small amount of native plant fertilizer to the media [except sphagnum moss]. But very little is known about the effect of adding fertilizer. And for plants that need a strong mycorrhizal relationship it is suspected that the addition of the fertilizer may be harmful.

Growing the deflasked plant.

The needs of the deflasked orchid.

Usually the deflasked plant is seedling size. A wild seedling will be growing close to the ground, among leaf litter and surrounded by herbage. Thus it is in lower light and higher humidity than a mature plant.

As well as considering the requirements of a seedling it is important to consider the conditions in which the plants were growing in the flask. Within the flasks the plants are in an even temperature, have a regular supply of nutrient, a regular light pattern, high humidity and do not need to train their stomata to open and shut. It is believed that the stomata remain open in orchids that are in flasks. It has been suggested that the plants ability to use light to photosynthesize may be reduced by some of the chemicals in flasking media and time is needed for the plant to adjust.

Until the deflasked plants develop the ability to work their stomata, to take in nutrient, photosynthesize and adjust to their new environment it is important to protect them from dehydration.

Growers try to place the deflasked plants into an environment that will support the orchid's needs. That is:

- Moderate humidity, but never moisture on the leaves unless there is excellent ventilation and breeze to dry the leaves before evening. Gradually reduce the humidity over several weeks while the deflasked plants adjust.
- A temperature minimum in the range of 2-10°C and a maximum in the range of 15-25°C.
- Reduced light while they adjust to life outside the flask. 70% shadecloth would be appropriate, increasing gradually to that provided for mature plants.

Growers also provide:

- Care over the growing season. The plants and tubers are small and easily dry out.
- Care over the first summer to avoid desiccation of the new tuber.
- Prompt, effective pest management.

After care of the plants.

- Keep the deflasked plants in a cool, low light area for several weeks. Usually under a clear plastic cover. The cover being gradually opened over about two weeks. A fog environment, if available, may be helpful.
- Some growers are able to keep the plants in the same place where the flasks were kept. They receive the same light and are at the same temperature. This seems to improve success.
- A cooler section of the shadehouse is

selected, perhaps under the bench, provided close observation can be maintained. The plants are then gradually adjusted to light levels similar to the parent plants. Under the bench may be too damp and cold in the winter months.

- The plants must be kept growing for the whole season to allow tubers maximum time to develop.
- As the new tubers are often near the surface the plant is susceptible to drying off on warm days.
- Water should not remain in the leaf axils or at the leaf base. Thus, provide excellent ventilation and good air movement after each watering.
- During the first summer dormant period, store the pot in a cooler place to reduce the risk of the small tubers dehydrating. One successful grower places an extra centimetre of potting media onto the pot after the plants go dormant.
- Automatic watering invariably leads to loss of plants as individual pots retain moisture and dry out at different rates.

Repotting after the first season.

Provided the media is in good condition the plants can remain in the pot for another year, perhaps adding an extra centimetre of media on top of the pot.

If it is suspected that the dormant tubers may be very small, it may be worth waiting until the tubers have formed shoots before repotting. This makes it easier to locate and remove the tubers from the media.

Pest management.

It is important to practice very good nursery hygiene and quickly control any infestation. Pests such as fungus gnats and their larvae, slugs, snails, aphids, spider mites, thrips and caterpillars love baby orchids. The larvae of fungus gnats will live in the potting media and rapidly eat the underground parts of the seedlings.

Sticky yellow pest strips and potted *Drosera* plants will reduce flying pests and also alert you to their presence.

-oOo-

ANOS Geelong Group
Annual
Spring Sarcochilus Show

6th and 7th November, 2004
10,00am - 4.00pm

The Masonic Centre
Regent St., Belmont, Geelong

Melways page 451 M10

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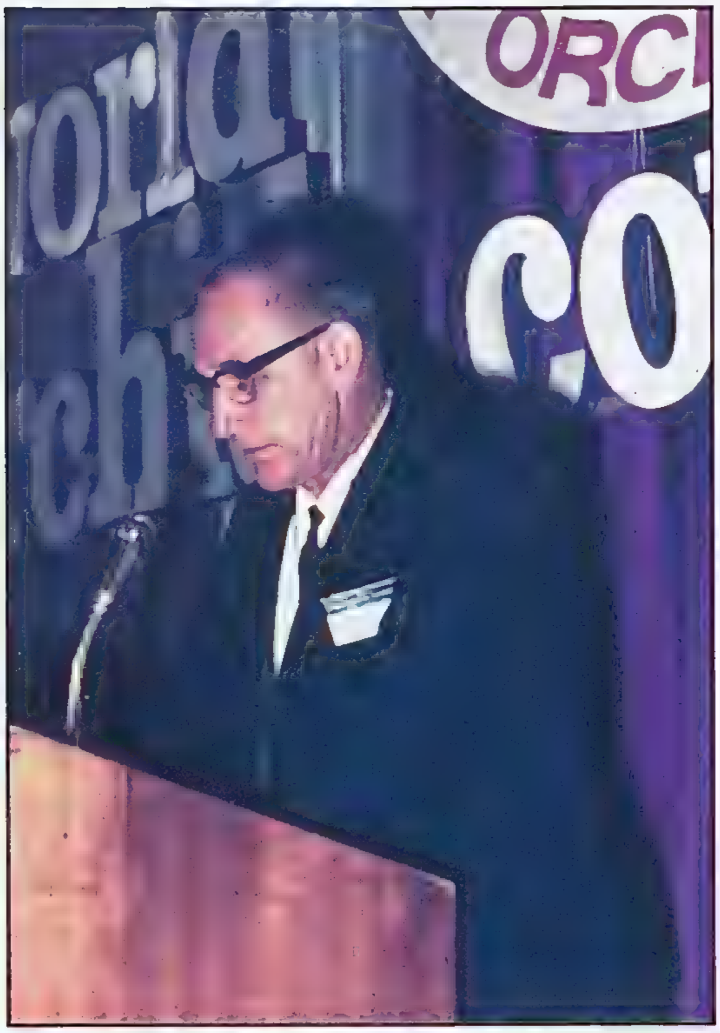
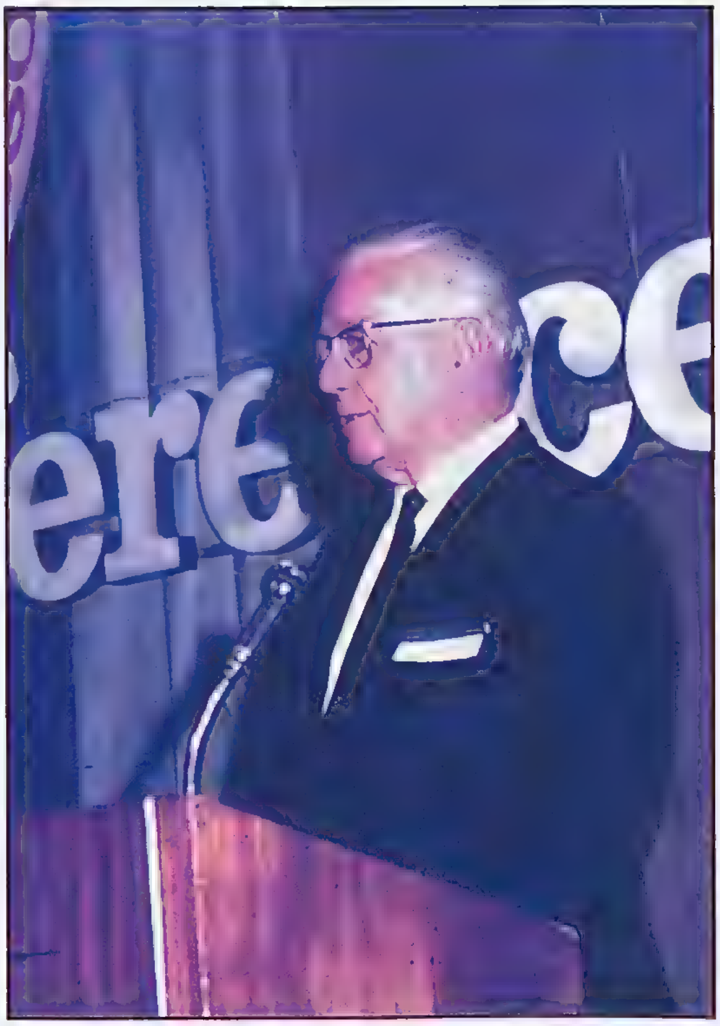
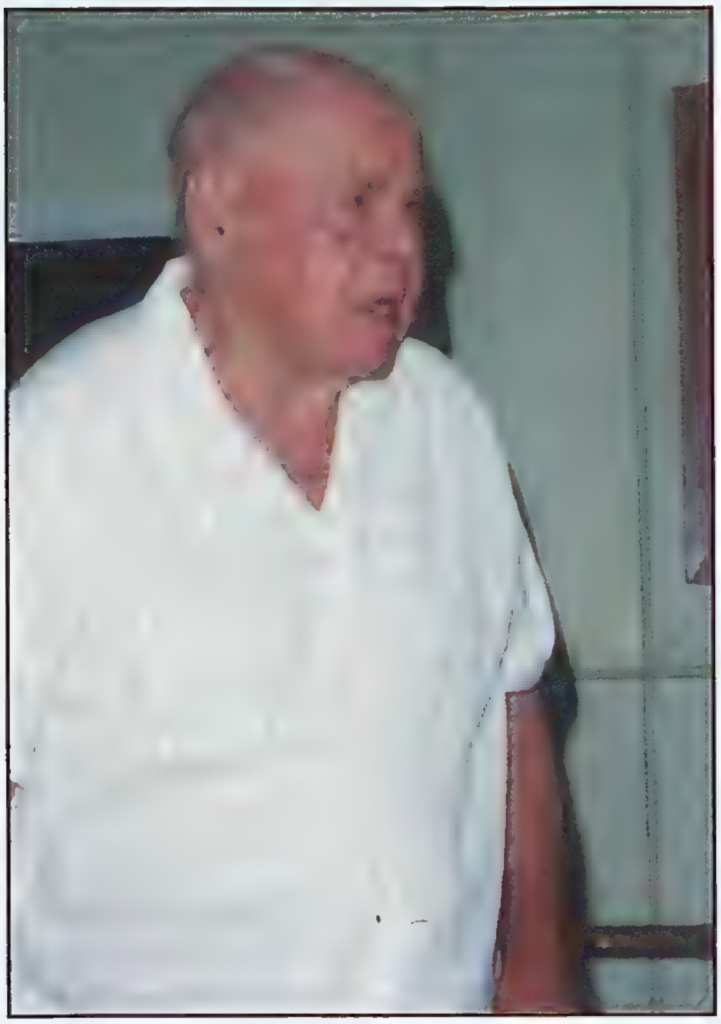


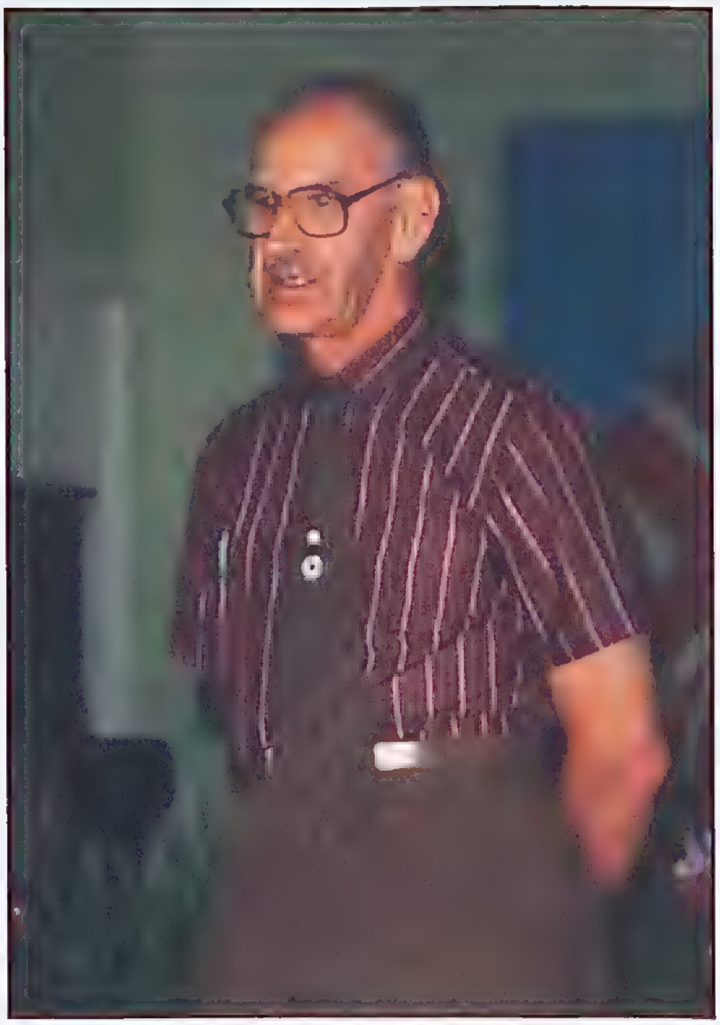
Alick Dockrill, 1969
6th World Orchid Conference



Eric Gordon, 1969
6th World Orchid Conference



Bill Murdoch, 1988
receiving AOF Award of Honour



Walter T. Upton, 1988

Photos MJ Corrigan

The Australasian Native Orchid Society.

A brief history of the early formation of ANOS - NEWCASTLE GROUP - SYDNEY GROUP - WARRINGAH GROUP

MURRAY J.G. CORRIGAN
19 Allington Crescent,
Elanora Heights,
N.S.W. 2101.

ANOS FORMATION

In 1963, Bill Murdoch of Coal Point near Toronto, an exotic and native orchid grower, had become totally dissatisfied with the attitude of exotic orchid society judges to Australian native orchid judging standards, and to the people who grew these "little orchids".

The judging edict once used by a senior judge and long remembered was, "go and find the biggest native orchid flower in the show and give it a prize!" This infuriated Bill who felt that native orchids deserved better treatment and proper judging standards.

Bill circularised people whom he knew were growing Australasian native orchids and felt as he did, seeking their views on the formation of better standards and a new society to promulgate them.

His printing "press" was a baking dish, a typewriter, paper, gelatine solution and initiative. Something Bill was never short of, having celebrated his 21st birthday on Gallipoli and served in both World Wars!

The "cyclostyling" process involved typing your circular, mixing the gelatine solution and pouring it into a shallow baking dish and allowing it to set. Then lay the typed circular face down on the gelatine surface to allow the typed image to set in the jelly. Remove the original and replace continuously with fresh sheets of paper until you had sufficient copies, or the image degraded, and then you did the whole thing again! I can assure you that almost a thousand circulars were printed this way.

Circulars were posted in hundreds and distributed in piles to orchid societies at Bill's expense. Recipients passed on the message to their friends far and wide.

Walter T. Upton received a circular and following conversations with Bill, began spreading the message throughout the orchid societies in Sydney and to his many orchid friends.

I have to emphasise that whilst Bill may have been the initiator, Walter truly deserves considerable credit for the success of ANOS through his personal dedication and involvement in so many ways, lecturing, photographing, drawing, writing, publishing.

In fact Walter tells me that he had been discussing the formation of a like organisation with Jim Scott, Leo Cady and Stephen Clemesha in 1962. Well before Bill began circulating his cyclostyled messages.

The attitude of the exotic orchid fraternity was patronising. We were constantly told that there were not enough native growers, or native orchids, to sustain such a society.

FORMATIVE MEETINGS

The Australia wide reaction was gratifying, so Bill arranged a meeting with Walter on the 17-01-1963 in Sydney at the Masonic Club. They met again at the same venue on the 5-2-1963.

Then there was a formative meeting of a large group of prospective members at the YWCA on the 23-3-1963. At this meeting it was resolved to form a society.

Subsequently a small group of keen participants and you will note, prospective Councillors, met on 26-4-1963 at Ron Kerr's home at Hornsby. Participants included Bill Murdoch, Walter Upton, Ron Kerr, Jim Scott, Stephen Clemesha and John Soiland.

Then followed another meeting at Ron's on the 18-5-1963 and again on the 29-6-63 to which Eric G. Gordon and I were invited.

The major business was the construction of the first Constitution and Judging Standards and finding material for the first issue of The Orchadian.

If my memory is correct, a subsequent meeting was held later at Wal and Jill's Upton new home in Worrorra Av. North Narrabeen, plus others at the office of Eric Gordon in upper Goulburn St. Sydney.

At these meetings the objects and provisional constitution were hammered out for presentation at the inaugural meeting on the 6th July, 1963. Walter produced the draft and I typed at least two subsequent versions, the draft of the latter I still have.

INAUGURATION

The ANOS Inaugural Meeting was held at the YWCA, Oxford Street, City, on 6th July, 1963. Bill Murdoch, who chaired the meeting, presented the Provisional Constitution and Objectives of the Society to the ninety people present. These were accepted by the meeting and an election of nominated Councillors followed. The provisional Council had previously invited Sir John Hall-Best to become the Patron of the proposed Society.

Some Councillors were of the opinion that Bill Murdoch should not nominate as President. His dominating personality and strong views were felt to be too aggressive for the prospective members who already belonged to many of the Sydney Societies affiliated with the OS NSW. Bill refused the advice and stood for election notwithstanding.

Patron: Sir John Hall-Best* #
President: William H. Murdoch* L.M.
Vice Presidents:
Eric G. Gordon* L.M. Jim H. Scott*
Recordings: R.J. Curtis
Gazette: Ron Kerr
Hon. Secretary:
Walter T. Upton L.M. LMW PW
The Orchadian: Murray J. Corrigan PA L.M. LMW PW.
Asst. Hon. Sec.: Stephen Clemesha
Hon. Treasurer: John Soiland*
* Deceased
L.M. Life Member of ANOS.
LMW Life Member of ANOS Warringah Group
# Founder and Chairman A.O.C
PW Patron ANOS Warringah Group
PA Patron of ANOS

The Gazette which was planned to be a monthly newsletter to all members, was found to be too expensive and beyond the financial means of the fledgling organisation. It would also have competed for much of the scarce material we were struggling to obtain for The Orchadian. After several cost analyses all plans for The Gazette were shelved.

For a full report of the first ten years history of the Society refer to *The Orchadian* v.4 #9.

THE ORCHADIAN

The formative council discussed at length the many names proposed for the journal before settling on The Orchadian. We considered The Orchidian and many other names, but firmly felt that The Orchadian was the name we wanted.

The first issue Vol 1 #1 was professionally printed in b/w on high speed Roneo equipment from typed stencils. Then on the 2-9-1963 the Council collated, stapled, folded and enveloped it. All this took place on the workbenches of Eric Gordon's cabinet making factory, in Goulburn Street Sydney, whilst we had our Council meeting.

The Council continued to meet at Eric's factory for many years and when an issue was ready for posting the meeting talked as we collated. Bill Murdoch's first annual report in 1964 noted that the Council had met twenty-one (21) times in the first twelve months and that most Councillors had attended twenty or more of the meetings.

All envelopes were addressed on high speed Addressograph equipment. I organised the supply of free envelopes, address plate creation, maintenance and updating, without cost for fourteen years.

Quite different to The Orchadian of today with paid Editor, gloss paper; computer composition, spell check and four colour printing. However each issue is still mailed by volunteer members as we did so long ago.

I am sad that so many members have not attempted to obtain back copies of The Orchadian, especially the early volumes, one through four. They contain such a vast array of information that would be beneficial to you all today. Get your group busy finding original editions and have them photocopied. If you can't use a friendly machine, have a canny member make a deal with a photocopy shop for a collective order, to be processed in offpeak periods in the shop.

OBJECTS

THE OBJECTIVES WERE PUBLISHED IN THE FIRST ISSUE OF THE ORCHADIAN IN AUGUST 1963 AS –

1. To promote the culture and propagation of the native orchids of Australasia;
2. To assist in the preservation of the native orchids of Australasia in their native habitat and to discourage the wanton destruction of the same;
3. To promote the scientific and cultural

knowledge of the native orchids of Australasia;

4. To publish, edit and review literature and all writings, that are approved by the Society, appertaining to the recordings, propagation, culture and science of the native orchids of Australasia;
5. To print and publish pamphlets and periodicals that the society may consider desirable for the promotion and furtherance of any of its objects;
6. To establish and maintain standards for the competition and award judging of the native orchids of Australasia;
7. To establish and maintain awards for the native orchids of Australasia, with the Co-operation of the appropriate authorities;
8. To engage in any activity that would further the well being and increase the knowledge of the native orchids of Australasia;
9. To extend the membership of the Society by creating a public interest in the Society's activities and proceedings.

ANOS PRESIDENTS

Bill Murdoch* 1963 - 1965, Eric G. Gordon* 1965 -1969, Bob Napier 1969 - 1972, Robert M. Lowe* 1972 - 1974, Eric G. Gordon* 1974 - 1975, Joe J. Betts* 1975 - 1978, James A. Walker 1978 - 1981, Norman Hilliger 1981 - 1984, Roy Gifford 1984 - 1987, Murray J. Corrigan 1987 - 1989, Walter T. Upton 1989 - 1991, Barrie Collins 1991 - 1994, Bob Napier 1994 - 1995, Barry Collins 1995 - 1998, Rob Travenar 1998 - 2001, Graham Slater 2001 - 2004.

* Deceased.

ANOS PATRONS

Sir John Hall Best October 1964 - 1st March 1972, James H. Willis March 1972, G. Hermon Slade, Walter T. Upton 2004"

Unfortunately various Editor's of The Orchadian failed to name the patrons in the masthead and further research in the minutes will be required to ascertain the relevant details and dates.

ANOS EDITORS -

Murray Corrigan 1963 - 1977#, Joe J. Betts 1977 - June 1984 **, Margaret Spence / Michael Pemberthy - September 1984 - M. Pemberthy June 1987 - June 1987***, Murray J. Corrigan / Walter T. Upton - August 1987, Dr. Noel J. Grundon - December 1987 - 1992 ****, Walter T. Upton 1992 - 1996, David P. Banks 1996 - 2002, Peter Eygelshoven - September 2002 - 2004.

# *The Orchadian*, v. 5 #9, p.140.

** *The Orchadian*, v.7 #12. June 1984.

*** *The Orchadian*, v. 8 # 12. June 1987.

**** *The Orchadian*, v.10 # 8. Winter 1992.

ANOS LIFE MEMBERS

A.W. Dockrill (first life member #), W.H. Murdoch*" 17-12-1968, Eric G. Gordon* 27-9-1969, Murray J. Corrigan Oct. 1975, Walter T. Upton (Nom. 10-7-1982**)+, Jill Upton, Lloyd Bradford*, Michael Harrison, George Hillman, Janet Napier, Bob Napier, John Riley, Allan Dash, Noel Grundon, David P. Banks, Ruth Rudkin.

* Deceased.

# *The Orchadian* v.1 # 2, p. 13.

" Also Life Member ANOS Newcastle, Native Orchid Society of Toowoomba and ANOS Victoria, 1970.

** Walter's nomination date is based on a copy of a letter from the Central Coast Group to ANOS, sent to Warringah Group and read on the 10-7-1982.

+ Walter T. Upton recipient of A.O.C. Award of Honour March 1989.

Note that some dates are incomplete and others non-existent. Research will continue.

ANOS FOUNDATION MEMBERS

Who still remain financial members - Walter T. Upton, Jill Upton, Murray Corrigan, C.R. Berglund, R. Deane, B.J. Dudman, John R. English, J. Gavrillis, D. Phillips, N.R. Winney, Bob Curtis, Fred Sweetman, Bob. Napier, Janet Napier #

# Information courtesy Bob Napier.

OTHER ANOS INITIATIVES

Australasian Sarcanthinae by A.W. Dockrill 19th September 1967.

ANOS Nomenclature and Registration Sub. Committee, publishers of the seven editions of "A Checklist Of Australian Native Orchid Hybrids". With the eighth edition in process. 1977 - 2004. Produced for the total financial benefit of ANOS.

ANOS Judging Committee - founded in 1964. Founders Lloyd Bradford, Bob Lowe, Murray Corrigan, Phil Spence and Walter T. Upton. Commenced the first course on the 11th June, 1978 with twenty eight participants.**

ANOS Judging Standards - founded 1973.

Refer *The Orchadian* v.4 #10.
Ira Butler Trophy Committee - Founders John Stuart, Eric G. Gordon and Murray Corrigan. Includes Ira Butler Trophy, R.D. Fitzgerald Trophy, W.H. Murdoch Trophy, Outstanding Achievement Trophy #, the Hermon Slade Trophy for Australasian Native Orchid and Australasian Native Orchid Hybrid.
State Judging Registrars.
Australasian Native Orchid Conferences.
National Judging Registrar.
# Only presented twice to date - to Walter T. Upton and to Roger B. Bedford, "...for their outstanding achievements in the hybridising and development of Australasian native orchids." Presented at O.S. N.S.W. February 1977. *
* *The Orchadian*, September 1977, v.5 #9 p. 139.
** *The Orchadian*, June 1978, v.5 #12, p.194.

HUNTER VALLEY GROUP

The Council had planned that the first Group to inaugurate would be Sydney Group on the 11th October, 1963.
However Bill Murdoch decided to steal a march on us and advanced the date of the inaugural Hunter Valley Group meeting, to be the first Group formed. Some of us became aware of this just before the meeting and turned up to Bill's surprise.
The inaugural meeting was held at the Maitland Town Hall on the 5th October, 1963.
The following committee was elected

President:	W.H. Murdoch
Secretary:	W. Tuckwell
Treasurer:	W. Plant
Committee:	Noel C. Jupp, J.W. Moore, B.J. Hartcher and W. (Bill) McK. Dowling.

Members present for the occasion included Eric Gordon, Murray Corrigan, and Stephen Clemesha.

In May this year I was advised that the group had lost their early minutes and was not able to establish the date of their inaugural meeting. When Ros Capell appraised me of their problem I made contact and provided the information from Vol. 1 of *The Orchadian*.
Refer The Orchadian, Vol.1, # 2, pp. 13. October, 1963.

LIFE MEMBERS

W.H. Murdoch 1970.+#
+Advised that W.D. Murdoch, Mr George Hermon Slade and Mr Gerald Mc Craith had just been awarded the A.O.C. Award of Honour. ANOS Warringah Group Minutes 14th January 1988, folio #109.
# Awaiting further information on subsequent members honoured.

PRESIDENTS IN SEQUENTIAL ORDER

W.H. Murdoch 1964-1966, Dr I. Lewis 1966-1969.*
* Additional information required

ANOS SYDNEY GROUP

At an early meeting of the newly formed ANOS Council, it was resolved that a Sydney Group should be formed immediately to cater for the members of the new society who lived in, or close to, Sydney.
As a new society with limited funds, we needed cheap accommodation, close to public transport, car parking, and hall space for slide shows, plant benching and space to seat a growing number of members. The Esme Hackett Hall filled the bill. Ron Kerr booked the hall and paid the rent and I organised the speaker.
All we needed was a Committee. Councillors agreed that we would have our hands full organising The Orchadian and forming new national groups. We resolved not to participate in the committee of the Sydney Group. Instead we selected from the early membership, a team of people known to the Committee, as knowledgeable Australian native orchid growers, with some orchid society administrative experience.

The proposed Committee was presented to the members at the inaugural meeting at the Esme Hackett Hall Ultimo, on the 11th October, 1963. They were elected by the twenty five ANOS members attending.
Refer *The Orchadian* v.1 #1. August 1963.

The nominated and elected Executive were-
PRESIDENT - Dave Hardie*. A member of North Shore Orchid Society Inc. and the first person to pay his subscription to ANOS.
VICE PRESIDENT - E.L. (Lloyd) Bradford*+ - A member of Mosman Garden Club, OS NSW, and North Shore Orchid Society. Lloyd was a professional photographer and a business

acquaintance of mine for over forty years.
SECRETARY - Bob Deane. A long time member and Judge of the OS NSW, and the owner of an orchid nursery at Eastwood.
TREASURER - E.W. (Ernie) Milton* - A close friend of Dave Hardie's and I believe, an accountant by profession.
COMMITTEE - D.J. (Doug) Dawson*, A Sydney businessman who later moved to the Albion Park area, south of Wollongong. Albert West*, and N. (Noel) Willis*.
* Deceased
+ Died 6th May, 1984 Sydney.

FOUNDATION MEMBERS INCLUDED

Walter T. Upton. Jill Upton, Murray Corrigan, Joan Corrigan, Eric G. Gordon*, Jim Scott*, Stephen Clemesha, Bill Murdoch*, Bob Curtis, Ron Kerr, Harold Jay, John Soiland*, Sid Batchelor*, John A.P. Blackmore*, Bert Bushell*, Barrie Collins, Kelvin E. Ellis*, John Ezzy*, Lindsay Parker, Fred Pearce*+, Charlie M. Taylor*.
Sadly this leaves just ten living foundation members that I know of and only three that are still active in ANOS.
* Deceased
+ Report in Warringah Group minutes of 10th July 1982, "Fred Pearce has terminal cancer and has until anout Christmas.
At the first meeting the members present resolved – "Moved and carried that a contribution of 2/- (20c) be made at each meeting to cover costs."

The next scheduled meeting was to be held at 8.00 pm on 22nd November 1963 in the same venue.
Letter dated 21-2-1964, from Group President to ANOS Council regards rent. "At first meeting rent was 5/- shillings (50c) per. meeting. After Christmas the rent will increase to 10/- ($1) per. night and L 1 pound ($2) per hour, which means L 3-10-00 ($7) per night."

PRESIDENT'S – IN SEQUENTIAL SERVICE ORDER

Dave Hardie 1964-1968, David R. Payne 1969, Harold Jay 1970, Fred Mc Kinney 1971-1973, Lloyd Bradford 1974-1976, James Walker 1977-1979, Garrie Wells 1980, Keith Edwards 1981, Brex Butler 1982-1984, John Kavulak 1985, Brex Butler 1986-1987, David White 1988-1989, Bronwyn Murphy 1990, Michael Harrison 1991-1993, Darryl Smedley 1994,

Phil Spence, Todd Spence, Andrew Upton, Murray J. Corrigan, Walter T. Upton and Stephen Clemesha in the early wanderings. Photo MJ Corrigan

Michael Harrison 1991-1993, Roger Phillips 1998-2000, Bill Olsen 2001-2004.

LIFE MEMBERS

Dave Hardie* October 1969, Bert Bushell*, Betty Bushell*, Fred Sweetman, Don Barnham*, Phil Collin, Michael Harrison, David Titmuss.

* Deceased.

THE VENUES IN ORDER WERE

ESME HACKETT HALL

Cnr. William Henry St. & Harris Street, Ultimo. A small City Council community hall which was adequate for the anticipated needs of the Group with adequate street parking, reasonable rental L2.05-00 (two pounds five shillings) per. meeting but distant from public transport and in a "rough" area of the city. However the rental increases continued and finally the building was demolished for newer, larger, premises. Sadly to report its replacement is already slated for demolition.

KING YORK HOUSE -

On the south-eastern side of York St. next to the hotel. Both the building and the hotel still stand. The free use of the premises was organised by Pax Lindsay, a horticultural writer for Selleys Pty.Ltd. They met on the second Friday of each month from January 1965, on the third floor and later on in the basement demonstration area. Until the move the Group had survived on a monthly member charge of 2/- per. person attending.

RAILWAY INSTITUTE -

Chalmers St. Sydney. At the southern end of Central Railway electric train platforms. These halls were used for training railway staff during the day and for many years were the venue for the City of Sydney Eisteddfod. Rental was low and the many halls of red painted weatherboard still stand. The first meeting held there was on the 12th June, 1964. The forty members voted unanimously at the meeting to pay a L1 pound membership fee to pay for the twelve months advance-booking fee required.

AUSTRALIA – AMERICA ASSOCIATION BUILDING - Lower Forte St. The Rocks. The Group moved there under Lloyd Bradford's leadership in May 1977. The venue is a beautiful heritage listed building where we members had some happy years. My recollection is that the accommodation was free.

TAFE RYDE SCHOOL OF HORTICULTURE

A meeting room was rented monthly and was the venue for Group meetings commencing with a meeting on the 13th October, 1978 under James Walker's Presidency. The foundation ANOS Judging Course and many subsequent ones were held here. The foundation course was created and presented by Walter T. Upton, Lloyd Bradford, Murray Corrigan and Robert Lowe. Our aim was always that the new judges would be superior in any judging company. With a very tough eighteen-month course requiring examinations at the close of every meeting. Students are also required to nominate a selected subject for a course long researched, written paper which they present to their fellow students and examiners on completion of the course. The examiners judge and grade the paper and presentation, towards their graduation marks. They then sit for a comprehensive written examination. In the first examination the minimum pass was set at 70%.

Over all these years we have demanded the highest standards from the students. I am happy to say that the successful candidates have been a credit to themselves, their lecturers, and ANOS.

At Tafe we were allowed to install a locked 1.8 m steel storage cabinet permanently in the lecture room and stayed at the facility for over six years.

Eventually the school requested we vacate the space and remove our cabinet immediately. I remember Michael Harrison giving me two days notice to remove the locked and filled cabinet. I was not even a member of committee, but had the only station wagon in the group it seemed!

On the afternoon of the first day, I moved the full 1.8 m X 1.0 m cabinet from the classroom to my Ford Fairlane station wagon in the distant car park and loaded it on my own. On arrival home, Joan and I removed it from the wagon, ground off the locks, removed and sorted the contents for distribution or dumping. Michael Harrison has a lot to answer for!

LADY GAME COMMUNITY CENTRE -

The Group moved to this site for their first meeting on the 18th January, 1985.

I well recall the party there to celebrate the twentieth anniversary of the Group. The venue was alcohol free so the caterers provided non-alcoholic wine for the occasion. We all suffered from indigestion as a result of the horrible wine and to add insult to injury, Joan Corrigan was breathalysed at St. Ives on the way home!

I have the signatures of all those who attended the function in the front of my bound volume of *The Orchadian* Vol. 1.

BURNSIDE COMMUNITY CENTRE -

Again the Group were on the move to this site in North Parramatta, for their first meeting on the 15th June, 1990.

The community centre was found to be unsuitable and alternative facilities soon found.

BAULKHAM HILLS COMMUNITY CENTRE

The Group moved to these premises on the 15th March, 1991 as a majority of the then current members, lived in close proximity.

They have remained there to this date and It is in this splendid venue that they hold their annual shows and celebrated their 40th Anniversary on the 29th April, 2004.

Guests included Foundation Councillors Walter T. Upton and Murray Corrigan their wives Jill Upton and Joan Corrigan.

Those unable to attend by circumstance included -

Harold Jay 97 years young, residing in a Forestville Nursing Home, Ron Kerr 85, Lindsay Parker, Bob Curtis, Bob and Janet Napier.

WARRINGAH GROUP

STONY RANGE FLORA RESERVE

Warringah Group of ANOS was formed on the 30th October, 1964, in the Corkery Building, at Stony Range Flora Reserve, Pittwater Rd. Dee Why.

Following the election of executive Walter T. Upton and Harold Hirsch showed colour slides to the thirty odd members present.

Committee elected were -

President: Walter T. Upton
Vice. Pres. Ernie Moss*
Secretary: Jack Evans*
Treasurer: Joan Cook*
Committee: Herbert Hall*, Neville Napper*, Harold Hirsch*, G. Clarke*.

Members present included: Eric G. Gordon*, Murray Corrigan, Joan Corrigan, Stephen Clemesha, Ron Kerr, Alec Blombery*, John Soiland*, Mr & Mrs Herbert Hall*, Jim Soiland, Lindsay Parker, Mrs Ernie Moss*, Mrs D. Wheeler, Mr & Mrs W. Jefferies*, Mrs Val Evans*.

The minute book for the period contains a full list of all "Foundation Members" and a further list of "Members Since".

Of the seven living foundation members I am the only active member currently participating.

Refer to *The Orchadian* v.1 # 8 pp. 89, October 1964.

The Group moved to thier new venue with the meeting of 11th April, 1982. The rent would be $7.00 per. month.**

**Group minutes 8th January 1982.

At the meeting of 9th November, 1984 members celebrated the 90th birthday of Eric Gifford Gorden whose birthday was on the 8th February 1984. A cake witha single candle was presented to Eric.

Minutes 11th July 1985 Masie Gordon died that day.

Minutes 12th September 1985. Suggestion made of a perpetual terrestrial orchid memorial trophy in memory of Eric Gordon.

PATRONS

George Hermon Slade 15th May, 1990.
Walter T. Upton 15th October 1991.
Murray J. Corrigan.

PRESIDENTS IN SEQUENTIAL SERVICE ORDER

Walter T. Upton 1964–1966, Keith Ingram 1967-1969.* Norm Hiiliger (Elec. 9-11-1978)1979,Eric G. Gordon* (Elec. 8-11-1979)1980, Robert M. Lowe* (Elec. 3-11-1980) 1981, Don Phillips (Elec. 12-11-1981) 1982, Michael Korzenowski (Elec. 11-11-1982) 1983, Michael Penberthy (Elec. 10-11-1983) 1984-1985, Lou Montouro Elec. 14-11-1985)1986. Resigned 16th July 1986 at Committee meeting.+, Norm Hilliger (Nom.17-7-1986 for remainder of that term), Norm Hilliger (Elec. 13-11-1986 1987, Barry Collins (Elec. 12-11-1987) 1988-1990, Jim Bailey 8-11-1990-1992,

* Other names will emerge with further research.

+ Minutes 16th July 1986 folio 47.

LIFE MEMBERS

Group Committe meeting in December 1981 lists item 8."Life Members" with no further comment. My presumption is that Life Members procceeding this date were not provided with a suitable badge and the matter was finally discussed at the December meeting. As a recipient I have only ever received the original Group badge with a bar LIFE MEMBER hanging above.

The minute below gives strength to this supposition.

"The Group badge design was approved on the February 1982. Perfection Plate to be advised to proceed."

Recipients-

Eric G. Gordon*, Walter T. Upton 8-111979, Robert M. Lowe* 8-11-1979, Joan Cook* 8-11-1979, Norman Hilliger 10-6-1982, Margaret Stevenson (Nom. 10-11-1983) Pres. 9-8-1984, Chris Arnott (Nom. 14-5-1986) 1986, Charles Fourro 12-11-1987, Jill Upton Pres. 8-6-1989, Murray J.G. Corrigan (Nom. 15-5-1990), 13-12-1990, Mick Korzenowski and Ian Carter.

* Deceased.

MERITORIOUS SERVICE AWARDS

Presented to Affiliated societies by the O.S. N.S.W., have been awarded to-

Joan Cook and Norm Hilliger for 1990.

Robert M. Lowe presented by Jim Bailey on 21-12-1991.

It was resolved that the Group would meet in the same hall on the second Thursday of each month.

It was agreed that only one membership fee would be required for the Warringah Group and ANOS.

Stony Range charged no rental fee through the support of Eric Gordon, Chairman of Stony Range. It was agreed that members would donate labour to the maintenance of the 7.5 hectare site. We built dams and bridges, which still stand today. Members moved many native orchids from proposed building sites to safety within the range, whilst Eric Gordon, Steve Clemesha, Harold Hirsch and I moved *Dendrobium speciosum* in by ten ton truck loads from dam sites. I can report that forty years on the dendrobiums have grown significantly but still suffer from the dreaded dendrobium beetle. I examine them every Tuesday on my day in the reserve.

FURTHER VENUES IN ORDER WERE

THOMAS VICKERS HALL

For several years the Group met in a chapel hall in Pitt Road, Curl Curl. This facility was arranged through one of our oldest and active members Charles Fourro; the father-in law of Norman Hilliger a former National President. The hall was ideal for the then Group, however we soon outgrew the facility and we were forced to move again. Sadly the little chapel no longer exists; I visited the site yesterday to get the correct name only to find that it has been demolished for a new house.

SENIOR CITIZEN HALL, FORESTVILLE

The Group was fortunate in finding cheap accommodation provided by Warringah Council and moved to this larger facility. Here they hold their monthly meetings in the small hall and hold their shows in the adjoining large theatre hall.

CONCLUSION

I must thank Walter T. Upton for many pieces of information used in compiling this record. His diary records can even tell us what plants were benched at meetings and by whom. Hopefully he can be induced to create a more comprehensive history of the Society and Groups in the near future.

Thanks also to Michael Harrison, Bob Napier, Janet Napier, Peter Eygelshoven, Ruth Rudkin and my long suffering wife Joan for her able assistance over a majority of my sixty-year orchid addiction.

It has been a wonderful experience re-living the last forty years of ANOS; I really do wonder where the time went?

Good wishes and congratulations to you all!

Support your Group, submit articles and subscribe to The Orchadian. Do not just read what others are doing; tell US what YOU are doing.

My apologies to readers for some gaps in details, primarily due to our printing deadline and the loss of some minutes of the Groups. Hopefully with time I will be able to find the missing pieces.

In completing this "brief" history I am left with the memory of so many great orchid friends that have departed this Life, yet leaving us this wonderful ANOS legacy – Eric Gordon, Bill Murdoch, Hilda Curtis, Jim Scott, Lloyd Bradford, Eric Marygold, Sid Batchelor, Bob Lowe, Alec Blombery, Joan Cook, Herbert Hall, John Blackmore, Harold Hirsch, Sir John Hall-Best and Charlie Taylor.

I am consoled by my many younger friends, so ably endowed and demonstrably capable of continuing to enhance all the facets of ANOS and its endeavours.

-oOo-

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Malaxis ophrydis – a taxonomic muddle.

Bill Lavarack
37 Bay St
Pallarenda Qld 4810

a 222 #65

This attractive, medium-sized terrestrial species is well known in North Queensland and indeed in many parts of tropical South East Asia as *Malaxis latifolia*. But lately it has had a multitude of names applied to it and there is much confusion about the "correct" name. This multiplication of names has occurred for a number of reasons including the extensive range of the species which occurs from northern Australia to India. Below is just a small sample of the names, including those most relevant to Australia:

Malaxis ophrydis (Koen.) Ormerod,
Epidendrum ophrydis Koen.
Malaxis latifolia J.E. Smith,
Gastroglottis montana Blume,
Dienia latifolia (Smith) M.A. Clem. & D.L. Jones,
Dienia montana (Smith) M.A. Clem. & D.L. Jones,
Liparis bernaysii (F. Muell.) F.M. Bailey and
Microstylis bernaysii F. Muell.

I am often asked why orchid names change so much and I must confess I ask myself the same question as well. The following discussion of *Malaxis ophrydis* may only serve to confuse people further, but it does provide some insight (I hope) on one such case.

It's quite difficult to know where to start with this as there has been action in three different areas – botanists associated with the Royal Botanic Gardens, Kew and those associated with the Australian National Herbarium in Canberra with an input also from a Polish botanist. Let's start with the position favoured by botanists from Kew. Orchid fanciers in South East Asia and Australia were happily using the name *Malaxis latifolia* for decades until research by the late Dr Seidenfaden and Paul Ormerod in 1995 showed that the species had been described previously as "*Epidendrum ophrydis*" by J.G. Konig in 1791, in his long overlooked "*Descriptiones Epidendorum*". This was twenty one years before J.E. Smith named the same species *Malaxis latifolia* in 1812. Under the rules of priority, this necessitated a transfer to *Malaxis ophrydis* which was done in 1995 by Paul Ormerod in a book written by Gunnar Seidenfaden.

Changes like this are a nuisance when well known names disappear because a long forgotten name has resurfaced, but they are necessary as there must be a constant set of rules or the confusion of names would be far worse. Having said this, the name *Malaxis latifolia* could, perhaps, have been conserved under the rules of botanical nomenclature despite being twenty one years later, but such actions are not common and are usually reserved for much better known and more popular species in horticulture.

Now to follow the other strand, in 1995 the Polish botanist Szlachetko transferred most of the species in the genus *Malaxis* to *Crepidium* and *Dienia*. This resulted in the well known species *Malaxis latifolia* being transferred to the genus *Dienia*. However botanists at Kew have reservations about this saying "This treatment may be correct, but we prefer to maintain *Malaxis* as used by Schlechter until a full monographic treatment has been undertaken" (Pearce and Cribb 2002).

The names *Dienia* and *Crepidium* are not generally being used in writings originating from Kew and South East Asia– see for example *Orchids of Sumatra* by J. Comber. However these names are being used by Mark Clements and David Jones from Canberra who are using a modified form of Szlachetko's classification (Clements and Jones 1996). To further complicate the situation they have reached the conclusion that the plant occurring in North Queensland and through New Guinea to Indonesia is actually Blume's *Gastroglottis montana*, (which they have transferred to *Dienia montana*) and that it is not *Malaxis latifolia* which is a separate species with an overlapping distribution in South East Asia.

Once again, this distinction has not been generally accepted by overseas botanists who continue the long established practice of regarding the name *Gastroglottis montana* as a synonym of *Malaxis latifolia* (or more recently of *Malaxis ophrydis*).

The background to this is that in 1996 Mark Clements and David Jones claimed that the sheet with the type specimen of "*Epidendrum ophrydis*" at Kew actually has two different species attached to it, which they designated as *Crepidium ophrydis* and *Dienia latifolia*. According to Clements and Jones, neither of these occurs in Australia. Pearce and Cribb (2002), disagreed saying that there was actually only one species represented on the sheet and that the name *Malaxis ophrydis* should be applied.

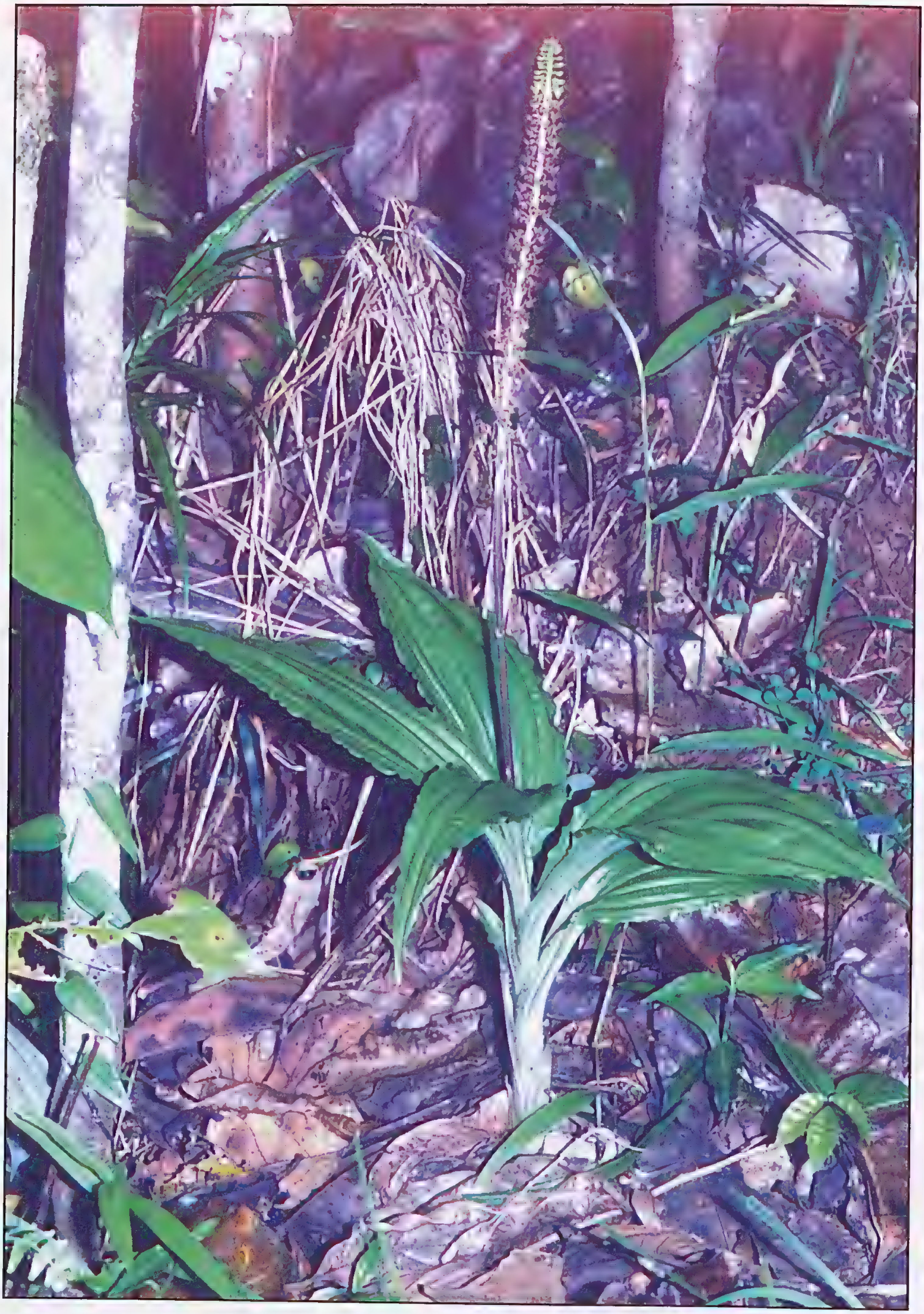
I have not seen the specimen in the flesh, but I have seen a photograph. As far as I can see there is nothing obvious to indicate that the two specimens on the sheet are two separate species. They agree with the sort of variation I would expect in a population of the common *Malaxis* in North Queensland and look generally like the local plants. For this reason I am continuing to use the name *Malaxis ophrydis* at least until a detailed revision sorts the matter out finally.

Now, if any readers are still with me, we can have a look at the species itself. It is a small to medium-sized terrestrial. The plant consists of a few pseudobulbs which taper from base to apex and are up to about 20 cm tall, but most commonly are about 10 cm tall. They are deciduous losing their leaves in late autumn or winter. There are four to six broad pleated leaves 7 to 20 cm long and 4 to 9 cm wide. The inflorescence is 5 to 30 cm long with usually large numbers of small (5 mm across) flowers that are various combinations of brown, green and purple. In Australian plants the lower open flowers are often a deep maroon colour while the immature flowers at the apex are green.

Well-drained sites with deep leaf litter on the shady floor of rainforests and moister open forests or in leaf litter pockets on large rocks are the habitat of this deciduous terrestrial species. In Australia it is more common in the lowlands but also extends to the mountains and from the top of Cape York Peninsula to Townsville, with a recent record extending the range to Proserpine. The broad, light green leaves are attractive, but the flowers are tiny, perhaps making up for their lack of size by being present in their hundreds along the spike. Flowering is in the wet season in summer when the leaves are present.

It grows well in a shallow pot in a terrestrial mix that is well drained and rich in organic matter. It should be placed in a humid, sheltered, shady spot in the bush house and kept moist through late spring and summer and somewhat drier in winter. It is a lowland tropical species and presumably would require some heat in winter in cooler climates.

Malaxis ophrydis is an abundant species over much of its range. In Australia a



Malaxis ophrydis

Photo Bill Lavarack

substantial part of the habitat is protected by the Wet Tropics World Heritage Area and various national parks and its conservation status should be considered as secure.

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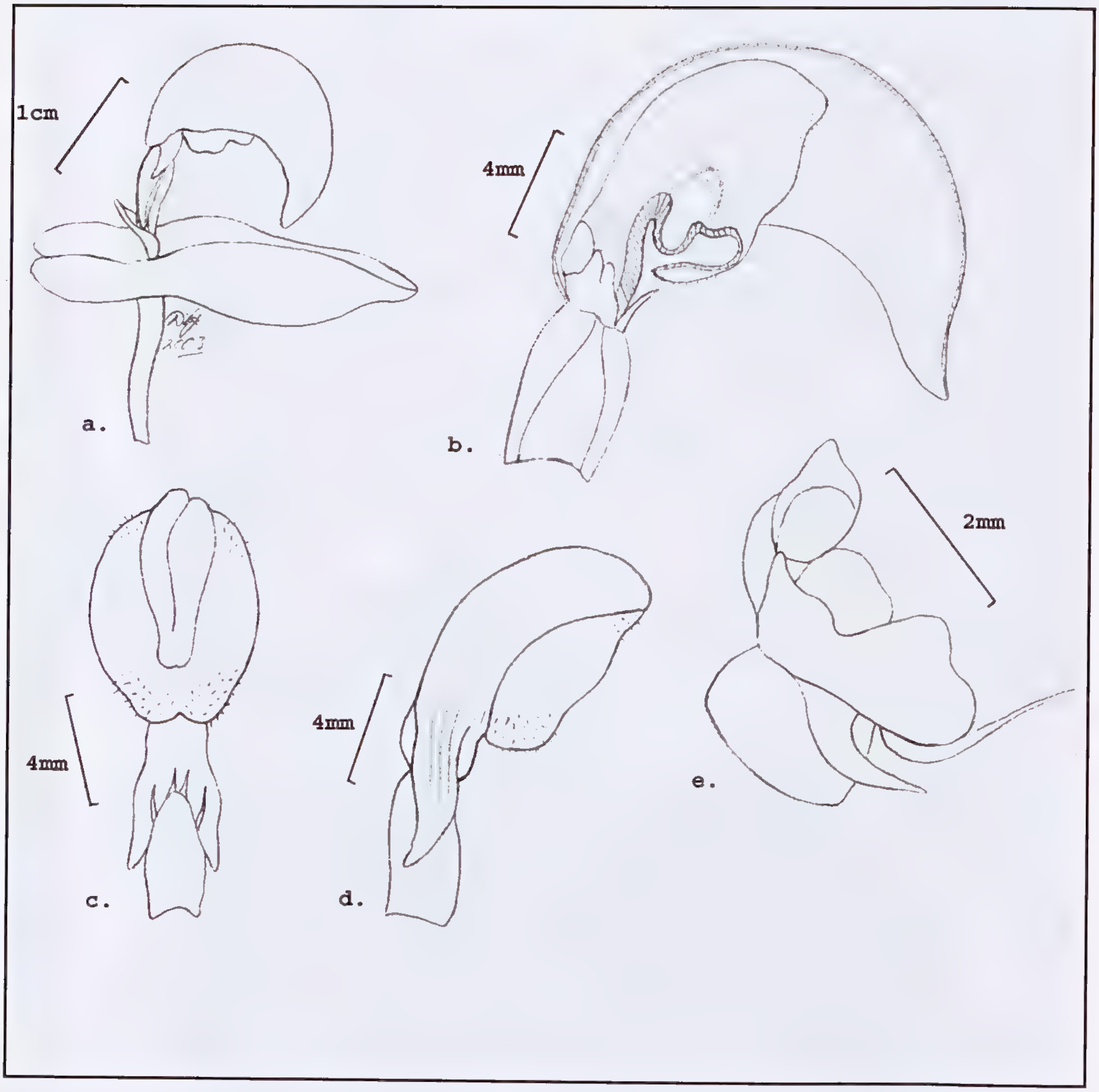

Fig. 1. *Corybas dowlingii*, Bulahdelah, NSW, *W. Dowling 308-311*. a. flowering plant; b. longitudinal section of flower; c. labellum, front view; d. labellum, side view; e. column, lateral sepals and petals, side view.

Fig. 1. Corybas dowlingii, Bulahdelah, NSW, W. Dowling 308-311. a. flowering plant; b. longitudinal section of flower; c. labellum, front view; d. labellum, side view; e. column, lateral sepals and petals, side view.

Corybas dowlingii (Orchidaceae), a new species from north-eastern New South Wales.

David L. Jones
Centre for Plant Biodiversity Research,
Australian GPO Box 1600,
Canberra, A.C.T., 2601, Australia.

a222466

Abstract

Corybas dowlingii from open forests of north-eastern New South Wales is described as new and compared with *C. barbarae* and *C. aconitiflorus* from Australia. Notes on habitat and ecology are included.

Key Words

Orchidaceae, *Corybas dowlingii*, new species, Australian flora, New South Wales.

Introduction

In the strict sense *Corybas* consists of about 12 species distributed in Australia, New Zealand, New Caledonia, New Guinea and Indonesia (Jones *et al.* 2002). Of these, 5 species occur in Australia, all endemic, with the latest new species recognised in 2001 (Jones & Gray 2001). Comprehensive collections of a new species, known to the author since 1994, have been made recently by Bill Dowling in the course of survey work on land subject to roadworks to establish a bypass around the New South Wales town of Bulahdelah. That species is here described as new.

Materials and Methods

The description of the new taxon was made from fresh specimens. Dried specimens of *Corybas* species were examined from the following herbaria: AD, BRI, CANB, HO, MEL, NSW and PERTH. Unless otherwise indicated, all types of related *Corybas* taxa (or photographs thereof) have been examined.

Taxonomy

Corybas dowlingii D.L.Jones, sp. nov. a *C. barbarae* D.L.Jones floribus purpureis; labello callo cristis crassioribus valde convolutis; sacco anteriore in labello multus grandiore et profundiore; et labello pagina scabridiuscula et pubis hispidis perpaucis, differt.

Type: New South Wales: Alum Mountain, Bulahdelah, 4 June 2003, *Dowling 328* (holo CANB; iso NSW, BRI).

Terrestrial tuberous herb growing in colonies. *Leaf* cordate to orbicular, 15-35 mm long, 15-35 mm wide, dark green adaxially, slightly reddish pellucid abaxially, apex apiculate. *Peduncle* c. 1-2 mm long. *Floral bract* closely sheathing, narrowly ovate, 2.5-5 mm long, 2-3 mm wide, acuminate. *Ovary* erect, straight or incurved, 4-9 mm long, c. 2-2.5 mm wide. *Flower* solitary, erect with an incurved dorsal sepal, 26-32 mm long, 14-16 mm wide, dark purplish red with whitish areas in the labellum, sometimes obscurely striped. *Dorsal sepal* concave, curved throughout, ovate-oblong when flattened, 15-23 mm long, 6-10 mm wide, dark reddish purple faint longitudinal striae, narrowed at base, apex apiculate. *Lateral sepals* linear-tapered, 2-2.5 mm long, c. 0.5 mm wide, acute, porrect or projected upwards against the base of the labellum. *Petals* linear-tapered, c. 0.5 mm long, c. 0.3 mm wide, acute, falcate, obtuse, hidden behind the labellum. *Labellum* much shorter than, and mostly hidden by the dorsal sepal, translucent white with red suffusions on the anterior; labellum tube c. 4 mm long, erect then recurved sharply and expanded into a lamina; lamina oblong-elliptic when viewed from the front, 10-12 mm long, 5-6 mm wide, transucent white with reddish suffusions and some red stippling, with a prominent, deep anterior pocket which has a thick intruding fold on the anterior side, the outer margins strongly revolute, the inner surface mostly smooth, the outer surface smooth or with a few short hispid hairs; callus greatly thickened, strongly folded medially.

Labellum spurs c. 3 mm long, deflexed and slightly curved forwards, hollow, tapered, whitish. *Column* c. 3 mm long, semi-erect, broadest at the base (c. 1.8 mm across), minutely winged, with a thick, prominent, fleshy, red pseudo column-foot. *Anther* c. 1.2 mm long, c. 0.8 mm wide, with a very short, blunt rostrum. *Stigma* elliptic, c. 1 mm diam., c. 0.7 mm high, sunken. *Pollinarium* c. 1 mm long, c. 0.6 mm wide, consisting of four pollinia in two pairs, attached directly to an oblong viscidium c. 0.6 mm long. *Pollinia* oblong, cream to yellowish, mealy. *Capsule* not seen. Fig. 1.

Distribution and Ecology

This species is currently known from three localities in New South Wales, viz Freemans Waterhole, south of Newcastle, in the vicinity of Port Stephens and on Alum Mountain, Bulahdelah. Its exact distribution is uncertain and more than likely the species occurs outside these areas. The new species forms clonal colonies and grows in gullies in tall open forest in well-drained gravelly soil. Altitude: 10-200 m. Flowering period: June to August.

Recognition:

Corybas dowlingii can be recognised by relatively large (9-13 mm long, 5-7 mm wide) dark purplish-red flowers; elliptic labellum lamina (5-7 mm wide) with a prominent deep anterior pocket; a strongly folded labellum callus; and, the labellum surface minutely scabrid but with very few hispid hairs.

Similar Species

Corybas barbarae D.L.Jones, which grows at the same locality from where the type collection of *C. dowlingii* was made, has similar size flowers to the new species but can be immediately distinguished by its predominantly white or pink blushed flowers, wide open labellum lamina which is ovate when viewed from the front, a much less convoluted and thinner labellum callus with a shallow anterior pocket and the presence of numerous hispid hairs on the lower parts of the labellum lamina. A large-flowered species similar to *C. dowlingii* but with paler, flesh-coloured flowers occurs further north around Wardell, but this taxon requires further study. *Corybas aconitiflorus* Salisb. is also similar to *C. dowlingii* but has smaller greyish-red to reddish flowers with a narrow dorsal sepal.

Notes

Where *Corybas dowlingii* and *C. barbarae* occur sympatrically the former species begins flowering as *C. barbarae* is finishing. The flowers of both species are entomophilous.

Etymology

This species is named after William McKenzie (Bill) Dowling (1942-), ecological consultant and orchid enthusiast from the north coast of New South Wales who, among other studies, has been carrying out a detailed survey of the orchids of the Barrington Tops region.

Specimens Examined

New South Wales: Alum Mountain, Bulahdelah, 4 June 2003, *W.Dowling 308-311* (CANB); *ibid, Dowling 312-327* (CANB); *ibid, W.Dowling 338-350* (CANB); *ibid, W.Dowling 407* (CANB); Port Stephens, 10 June 2004, *G.Hillman (ORG 4483)* (CANB).

Acknowledgements

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Ethnobotany of Australasian Orchids.

Peter Presland

Introduction

From the early existence of man, he has relied upon nature to provide all his needs in regards to food, medicine and shelter. The use of natural resources is well known, in particular, the use of plant materials. Some of the plants used belong to the orchidaceous family. Orchids from around the world have made their mark in history as a source of food, medicine and to satisfying their spiritual and ceremonial needs. For example, the Aztec people considered *Vanilla planifolia* a wonderful flavouring for food and beverages. It was also considered as having therapeutic values, from aiding digestion and preventing headaches, to counteracting poisons and bites as well as being regarded as an aphrodisiac between the 16th and 19th centuries (Lawler 1984). The Australasian region is well represented with the alternate use of orchid products. The Australian aborigines and the native people of the Pacific Islands used orchids in a number of ways including food, medicine and ceremonial use.

Orchids as food.

Tubers provided part of the staple diet of Aborigines and various yams, corms, and roots formed part of the major food source. Many orchids and their tubers were eaten. Roots and tubers of orchids have a similar food value as potatoes and carrots. The Australian aborigines have used native orchids as a food source for about sixty thousand years. A large portion of the deciduous terrestrial species form tubers that were harvested for food. Table 1 and 2 illustrates the type, flavour and location of some native orchids consumed by the Aboriginal community. The tubers of the following genera were harvested - *Acianthus*, *Glossodia, Caladenia, Microtis, Pterostylis, Prasophyllum, Diuris*, and *Thelymitra*, (Lawler 1984, Cribb and Cribb 1987, Low 1991). The tuberous roots of *Dipodium punctatum* and *Gastrodia sesamoides* sometimes produced tubers the size of sweet potatoes, (Low 1991). According to Cribb and Cribb (1987) the tubers of *Gastrodia sesamoides* were roasted before eating and form the principal orchid consumed by the Tasmanian Aborigines. For the Aboriginal people of the Beecroft Peninsula, New South Wales, *Cryptostylis erecta* was a staple food according to Lampert and Sanders, (1973). Low (1991) reports of an early botanist who counted four hundred and forty greenhood orchids (*Pterostylis sp.*) in a single square metre of soil, yielding eight hundred and eighty tubers with a combined weight of around 126 grams.

Australian epiphytic orchids were also harvested as a food source. There are records of the fleshy pseudobulbs of *Dendrobium canaliculatum* and *Dendrobium speciosum* being eaten by Aborigines. The swollen stems of *Dendrobium speciosum* and *Dendrobium canaliculatum* were beaten to break up the fibre and then cooked on hot stones, (Lawler 1984). Other *Dendrobium* species were probably used as a food source but no records were found. The pseudobulbs of *Cymbidium canaliculatum* were chewed and sucked for the starch content contained within, (Cribb and Cribb 1987, Low 1991). The Aboriginal tribes of Northern Queensland consumed the pseudobulbs of *Cymbidium canaliculatum*, while in the southern parts of Queensland the pseudobulbs of *Cymbidium madidum* were eaten. The Aboriginal tribes of New South Wales would eat the swollen stems of *Cymbidium suave,* (Lawler 1984).

The Maoris of New Zealand are reported as eating the tubers of *Gastrodia cunninghamii, Orthoceras strictum* and *Thelymitra longifolia*. The children of Enga Province, Papua New Guinea were sometimes fed the new shoots of *Epiblastus cuneatum*. While, on the Eastern Highlands, *Habenaria* tubers were foraged as a food supplement. The natives of the Eastern Highlands also ate the tubers of *Thelymitra papuana*. The natives of New Caledonia would consume the tubers of *Liparis disepala* after they were cooked or roasted, (Lawler 1984).

Table 1. Terrestrial orchid species and their flavour.

Orchid Species	Flavour
Caladenia carnea	Watery, sweetish
Calochilus sp.	Starchy, bitter
Dipodium punctatum	Watery, fibrous
Diuris aurea	Bland, glutinous
Diuris maculata	Bland, very glutinous
Glossodia major	Watery, bittersweet
Lyperanthus suaveolens	Juicy, fragrant
Microtis sp.	Bland, starchy
Prasophyllum alpinum	Juicy, bittersweet
Pterostylis longifolia	Watery, bitter
Pterostylis other	Watery, sweetish
Thelymitra ixioides	Bland, glutinous

(Source: Low 1991)

Table 2. Type of Australasian terrestrial orchids and where consumed.

Genus or Species of Orchid	Area of Food Use
Acianthus sp.	Commonly eaten in Victoria
Caladenia sp.	Eaten throughout Australia
Caladenia carnea	Commonly eaten in South Australia
Caladenia dilatata	Commonly eaten in north west Victoria
Caladenia patersonii	Commonly eaten in Victoria
Cryptostylis leptochila	Commonly eaten in Wilson Promontory
Cryptostylis subulata	Commonly eaten in Wilson Promontory
Dipodium sp.	Commonly eaten in Victoria
Diuris sp.	Commonly eaten throughout Australia
Diuris longifolia	Commonly eaten in Victoria
Diuris maculata	Commonly eaten in Victoria
Diuris palustris	Commonly eaten in Western Victoria
Diuris pedunculata	Commonly eaten in Victoria
Eriochilus cucullata	Commonly eaten in South Australia
Gastrodia cunninghamii	Commonly eaten by the New Zealand Maoris
Geodorum pictum	Commonly eaten in Queensland
Glossodia sp.	Commonly eaten in Victoria
Liparis disepala	Commonly eaten by the natives of New Caledonia
Lyperanthus sp.	Commonly eaten in Victoria
Microtis sp.	Commonly eaten in Victoria
Microtis porrifolia	Commonly eaten by the New Zealand Maoris
Microtis unifolia	Commonly eaten in South Australia
Prasophyllum sp	Commonly eaten throughout Australia
Prasophyllum fimbria	Commonly eaten in Western Australia
Prasophyllum patens	Commonly eaten in western Victoria
Pterostylis sp.	Commonly eaten throughout Australia
Thelymitra sp.	Commonly eaten throughout Australia
Thelymitra antennifera	Commonly eaten in Western Australia
Thelymitra longifolia	Commonly eaten by the New Zealand Maoris
Thelymitra papuana	Commonly eaten in Papua New Guinea

(Source: Lawler 1984, Hope and Coutts 1971).

Orchids as Medicine.

Before the arrival of Europeans to the Australasian region the natives used a variety of plant and animal products as remedies for most problems. Orchids became part of the remedies with a wide and varied collection of species in use and are still being used. The early colonist soon took note of what the Aboriginal people were using as treatment for the ailments that afflicted the tribe, for example, the chewing of epiphytic orchids. Low (1990) reports in the Gladstone area the stems of the Black Orchid (*Cymbidium canaliculatum*) were grated and boiled producing flour similar to arrowroot. According to Low (1990) and Lassak and McCarthy (1983) Aborigines ate the pseudobulbs of *Cymbidium canaliculation* and *Cymbidium madidum* as a treatment for dysentery. The pseudobulbs stored a reserve of arrowroot starch that the colonist eventually extracted as food.

Low (1990) reports a discussion with Mrs. Rawson of Maryborough, who collected a white honey from an orchid that grew in the tea tree scrub near her home. It had a flavour similar to coconut but it tended to make her sleepy. On one occasion her boys and a visiting lad made sandwiches using this honey, about three tablespoonfuls, resulting in all tree boys sleeping for many hours. After that the honey was banned.

The milky sap from *Cymbidium canaliculatum*, *Dendrobium affine*, *D. canaliculatum* and *D. discolor* would be dripped onto sores and wounds as a dressing to aid healing of the infected area by Aborigines as well as the colonist, (Low 1990). The Aboriginal Communities of the Northern Territory (1988) claim that the sap or juice from the crushed stems of *Dendrobium affine* and *Cymbidium canaliculatum* is a remedy for itchy skin, cuts and sores. The sticky liquid was dabbed onto the affected area using the remains of the pseudobulb as an applicator. This treatment may be repeated a number of times until the affected area had healed. Lawler (1984) reports Aborigines from Eastern Arnhem Land would apply chewed orchid stems to burn wounds where the skin was unbroken. Also a dressing of orchids was applied to the head of an embedded spear in an attempt to loosen it from the wound. Aboriginal women would eat the seed capsules of *Cymbidium madidum*, which is reported to be a contraceptive, (Low 1990). While, on the islands of Fiji the grated stems of *Dendrobium tokai* were mixed with the leaves of *Hibiscus* to form an oral contraceptive. The native woman of the Southern Highlands of Papua New Guinea consumed the smoked flowers of *Phaius tankervilliae* with their food in the belief it would aid conception, (Arditti 1973).

The native people of central Papua New Guinea used the leaves of a *Dendrobium* species to relieve severe cough, while *Dipodium pandanum* was used for respiratory infections when the leaves formed the basis of a tea. On Guadalcanal the young leaves of *Macodes* species was made into an aqueous infusion to treat coughs (Lawler 1984). On the island of Bougainville the seeds from *Grammatophyllum scriptum* were mixed with coconut milk to treat infants with skin disease. Also the heated crusted leaves of *Macodes* species could be used as a remedy for skin diseases on the islands of Guadalcanal. *Calanthe triplicata* is believed to have tonic properties and was often used after an illness in Fiji. *Calanthe triplicata* was used to treat gastrointestinal disorders on the islands of New Caledonia. Other orchids used by the islanders of the South Pacific included *Oberonia glandulosa* used to alleviate back and chest pain in Fiji. The leaves of *Galeola rigida* were used as a remedy for colic and headaches, (Lawler 1984).

Spiritual, ceremonial and other uses of orchids.

Australasian orchids also had significant value as a spiritual and ceremonial item as well as other uses. The natives of Papua New Guinea love flowers and this is reflected in the widespread use of orchid flowers. *Dendrobium cuthbertsonii* was often worn in the lei of the people of the Eastern Highlands. Lawler (1999) has recorded the flowers of the following genera being used – *Dendrobium, Dendrochilum, Liparis, Mediocalcar, Phaius, Spathoglottis* and *Thelymitra*.

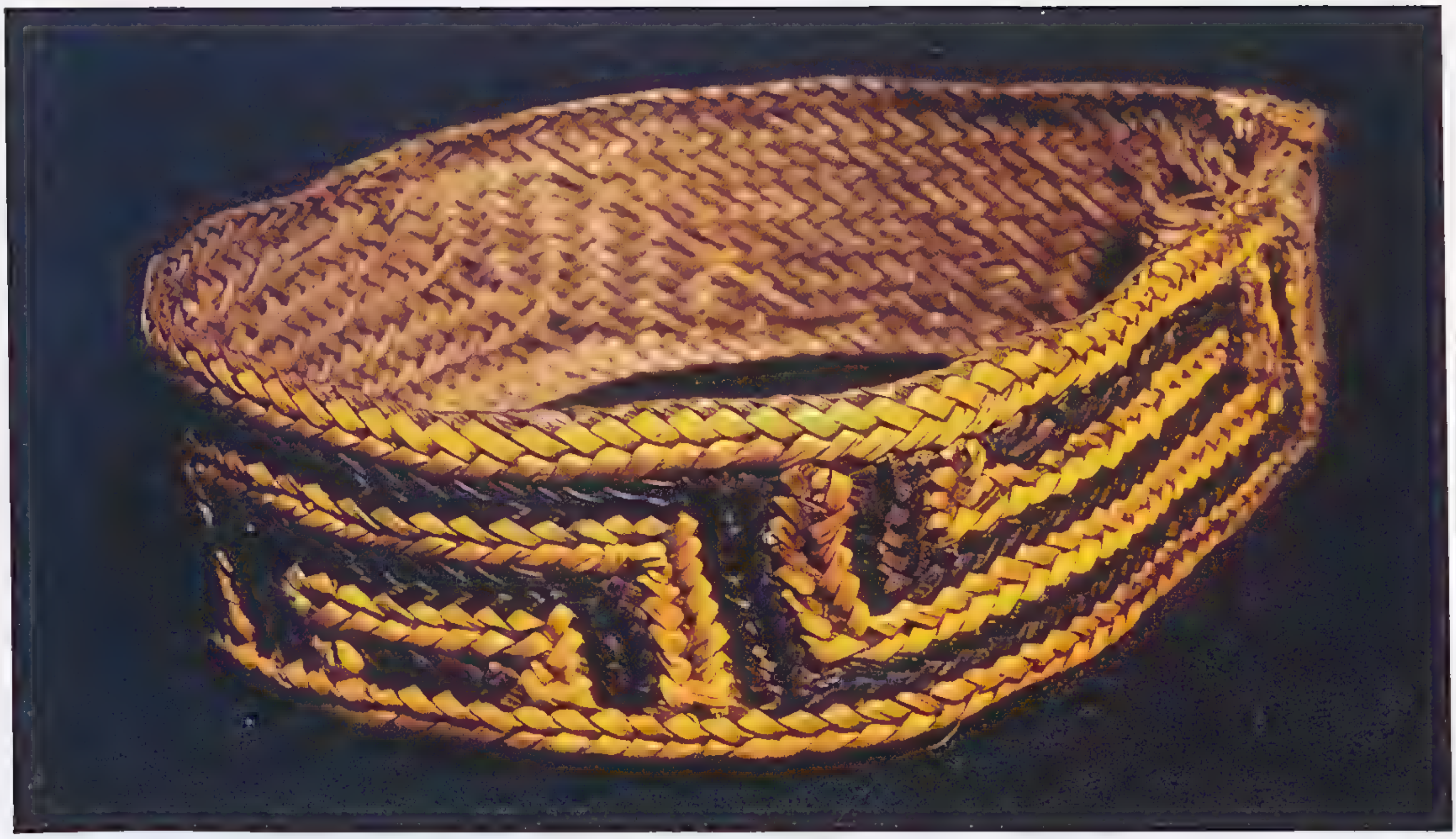
As a magical item the sorcerer of an Aboriginal tribe of Arnhem Land used the juice from orchid pseudobulbs in ritual killing. The juice was rubbed over the arms before they were placed inside the victim's body (Lawler 1984). The name given by the Chimbu people of Papua New Guinea for *Dendrobium* is "duruagle" which is also the same name given to a whore. The whore refers to a fair-skinned female ghost that strolls along the riverbanks, naked, seducing young males into sexual intercourse. However, this was not the end of the encounter. If the duruagle was not satisfied, the following night resulted in a painful sexual disease for the young males, (Lawler 1984). The natives of Guadalcanal crushed the leaves of *Cryptostylis* species and placed droplets of the juice on the eyelids of the corpse in an attempt to stop the spirit of the dead from haunting their former house.

The Kukukuku men of Papua New Guinea wore part of an orchid stem in the nasal septum as part of their puberty rites. The people of Jimm region used *Calanthe* and *Spathoglottis* in ritual. In the Eastern Highlands boys undergoing initiation wore the leaves and stems of a *Dendrobium* genus, (Lawler 1984).

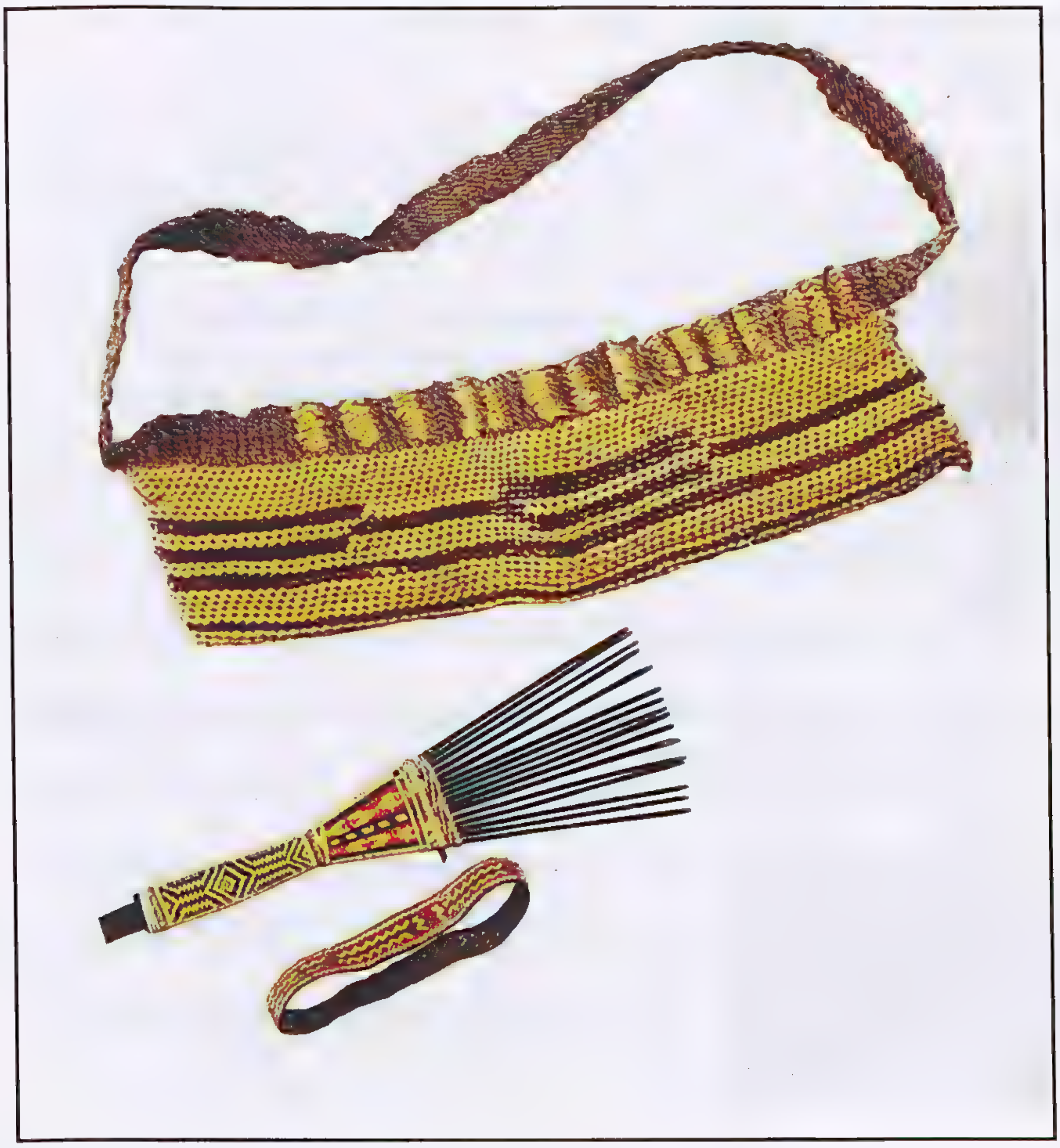
Australian Aborigines used *Dendrobium affine* as a colouring for ceremonial painting (Brook 1988), while, Cribb and Cribb (1982) claimed that the leaves and flowers of *Calanthe triplicata* contain indican, a substance similar to indigo. Bruising the flowers and leaves allows a chemical reaction to occur, changing the clear indican into blue indigo. A variety of surfaces were used in Aboriginal paintings but the use of *Cymbidium canaliculatum* and *Dendrobium dicuphum* acted as an adhesive to bond the paint to the applied surface. This was achieved by mixing ochre with the juice from the pseudobulbs of the orchids, (Cribb and Cribb 1982). Orchid juice was used as glue and used to stick feathers and paint to the bodies of the dancers. *Geodorum pictum* pseudobulbs were crushed and the sap produced was used as a fixative in bark painting, (Lawler 1984). The people of Duke Island used a mixture of limejuice and the leaves of *Tropida disticha* as stain for clothing according to Lewis and Cribb (1991).

The leaves of *Calanthe triplicata* and *Spathoglottis* species were used to wrap food for cooking, *Dendrobium* leaves were used as a wrapping for salt, while the leaves of *Spathoglottis plicata* were used as a general wrapping material by the villages of Papua New Guinea, (Lawler 1999). String made from the fibres of *Dendrobium* species have been use by the natives of South Pacific as an aid in catching fish Lawler (1984).

The dried stems from *Dendrobium* and *Diplocaulobium* provided the yellow striping in the plaiting that formed the decorative patterns in clothing, armbands, necklaces, weapons and other artifacts. The red colouring of these artifacts came from the dried tissue of *Bulbophyllum*. These orchids were in common use in Papua New Guinea, (Lawler 1999). Torres Strait Islanders and mainland Aborigines used the yellow fibres from the skin of orchid stems for decorative purposes. Items such as armlets, belts, waistbands and shoulder belts could be made from these stems. *Geodorum pictum* was used by Aborigines to strengthen spears by heating the bulb in a fire and then applying it to the spear shaft according to Lawler (1984). The bright yellow pseudobulbs of *Diplocaulobium solomonense* were used to make plaited armlets and baskets by the Solomon Islanders, (Lewis and Cribb 1991). In Irian Jaya the people of Nassau Range made plaited pouches from orchid stems. These pouches were used to store



Above:
A typical ceremonial armband used by the natives of New Guinea (Lawler 1999).



Left:
A plaited pouch using dried orchid stems for colour. Armband and comb consisiting of dried orchid stems for the yellow and red colour (Lavarack et al 2000).

their most precious possessions. They also made grass skirts from the dried stems of orchids, (Lawler 1984).

Other uses for orchids in Papua New Guinea include the production of bird decoy whistles from the stems of epiphytic orchids. The seed from *Agrostophyllum* species was used as a possum hunting bait, eating the flowers of *Phaius tankervilliae* with other foods assisted in conception. The leaves and tubers from *Habenaria* and *Spathoglottis* were used as a stock feed for the village pigs (Lawler 1999).

Thelymitra papuana, *Spathoglottis grandiflora,* as well as flowers from the genus *Liparis* and *Coelogyne* were used as personal ornamentation in the Eastern Highland region of Papua New Guinea. Women at children's parties wore the leaves and stems of *Dendrobium* species, (Lawler 1984). In the highlands of Papua New Guinea a number of *Dendrobium* and *Grastidium* species provided the raw material for personal adornment and body decorations. To ensure a ready supply of material the orchids would be transplanted into the villages together with *Diplocaulobium* that were planted on the roofs of houses (Lavarack et al 2000).

Conclusion.

Historically the native people of Australasia have to look to the plants of Orchidaceae as a source of food, medicine and the spirits as has been identified in this article, however, to date no conclusive reports can be found that indicate their continued use. Although Phil Spence (pers. comm.) indicated that in some parts of Papua New Guinea the spiritual beliefs about native orchids are still commonly practiced. Perhaps a far greater study is required to identify potential sources of future medicines before the region loses its orchid population through loss of habitat. Only time will tell.

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An update for *Habenaria harroldii* (D.L. Jones): A rare, moisture loving terrestrial orchid.

Alan E. Logan
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The first recording of *Habenaria harroldii* was made by Dr Arthur Harrold, after whom the orchid is named, in 1976. He found about one hundred flowering plants in the Noosa Rivers National Park, now part of the Great Sandy National Park, near Lake Cooroibah, north from Tewantin in Queensland's south east, (Clarkson 1976). Despite intensive searching over many years, only four isolated plants have been found in that area since. A single collection was made in 1986 from the Cooloola National Park by Carolyn Sandercoe, but it is unknown if there were more plants present at that site (Jones 1998).

In March 1996, the author, with the late Ted Smith, found a single flowering plant near Maaroom, south from Maryborough in the Wide Bay region; quite some distance north from the other localities (Logan 1996). The Maaroom locality has been monitored every year since and a varying number of plants have been recorded each year. This is in contrast to the Lake Cooroibah locality, which has not been monitored.

Listed chronologically, are the number of plants found at the Maaroom locality. (Abbreviations:- fl. = flowering plant; n-fl. = non-flowering plant).

1996: 1 fl. plant.
1997: 32 fl. plants.
1998: 23 fl. and 5 n-fl. plants.
1999: 3 fl. and 4 n-fl. plants.
2000: 2 fl. and 3 n-fl. plants.
2001: 1 fl. and 5 n-fl. plants.
2002: 28 fl. and 16 n-fl. plants.
2003: 1 fl. and 3 n-fl. plants.
2004: 70+ fl. and 1 n-fl. plants.

The low plant numbers indicate the years of low rainfall, except for 1999, which was extremely wet with the habitat very waterlogged and boggy. The few plants found were growing in the slightly firmer margins of the habitat. In 2000, most of the locality, except the private property site, was burnt on the 12th February, so it was to be expected that the plants numbers would be low. However, the season was dry, and the five plants found were growing in the unburnt site, which yielded thirty three flowering plants in 2004.

The higher plant numbers indicate the years of more appropriate rainfall, with 2004 having the (possibly) optimum weather conditions for this species. The locality received good falls of rain from November 2003, to January 2004, with lighter falls during February. Because of the higher rainfall, humidity was also very high during the flowering period. When the locality was searched in early March 2004, the substrate was fairly moist, but not waterlogged as in 1999. The number of plants recorded in 2004 may have been lower, due to the species cryptic nature amongst the ground storey vegetation, (Logan 1998), and had it not been for the assistance of several Queensland Parks and Wildlife Service personnel who participated in the search.

It is unknown if there is any individual or group undertaking research into the occurrence/distribution of this species in the Cooloola National Park/Noosa North Shore region. Communication with Dr Harrold, in 2004, indicates that he is unaware of any research at that locality. Several localities around Maryborough, with similar habitat, were searched during March/April, but without success. It is imperative that additional plants be found to ease the pressure on the Maaroom population, which represent the only known plants in existence at this point in time. Therefore, it is hoped that some enthusiastic native orchid individual or group can find the incentive to undertake searches in the type region, now that the species overall ecology is better known. Dr Harrold has supplied the author with excellent maps to the type locality, and copies of these can be sent to any interested persons. He has also indicated that the type habitat is the same as the private property site at Maaroom.

To sum up: from the above observations, it is obvious that for optimum growth and flowering, *Habenaria harroldii* requires an open, grassy woodland habitat with good rainfall during the four months prior to flowering, decreasing to showers at flowering time. The substrate should be reasonably moist, but not unduly waterlogged.

Acknowledgements

The assistance of the Q.P.W.S. is acknowledged, with appreciation, regarding the ongoing conservation of the Maaroom population of *Habenaria harroldii*, and for the other projects involving the distribution of native Orchidaceae in the Wide Bay/ Burnett region of south east Queensland.

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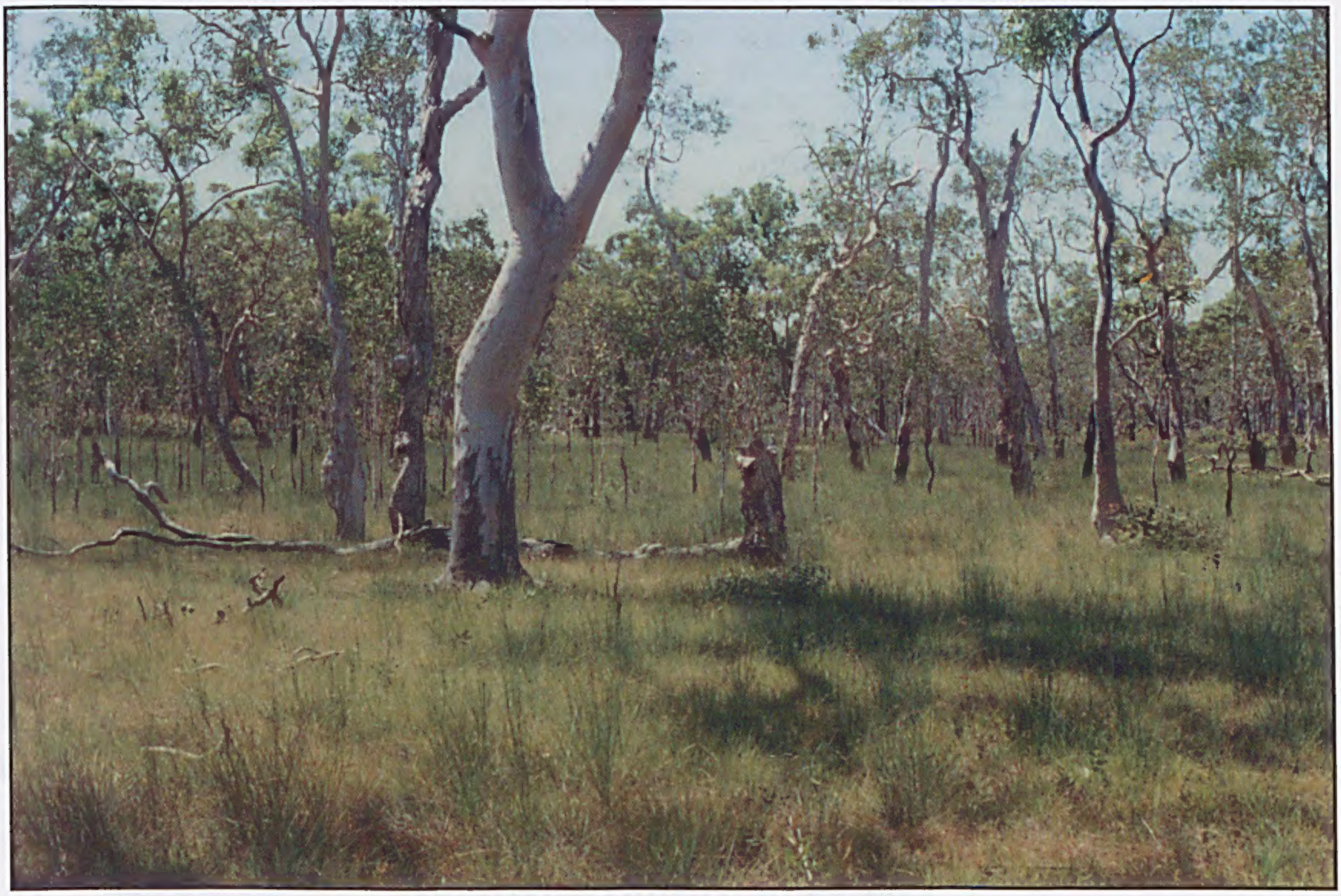

Habenaria harroldii habitat - private property site Maaroom Photo Alan Logan

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This is part of the ongoing occasional series of publications by the Australian Orchid Foundation. This Volume contains a monographic treatment of *Pterostylis*. There are four parts:

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Habenaria harroldii

Photo Alan Logan